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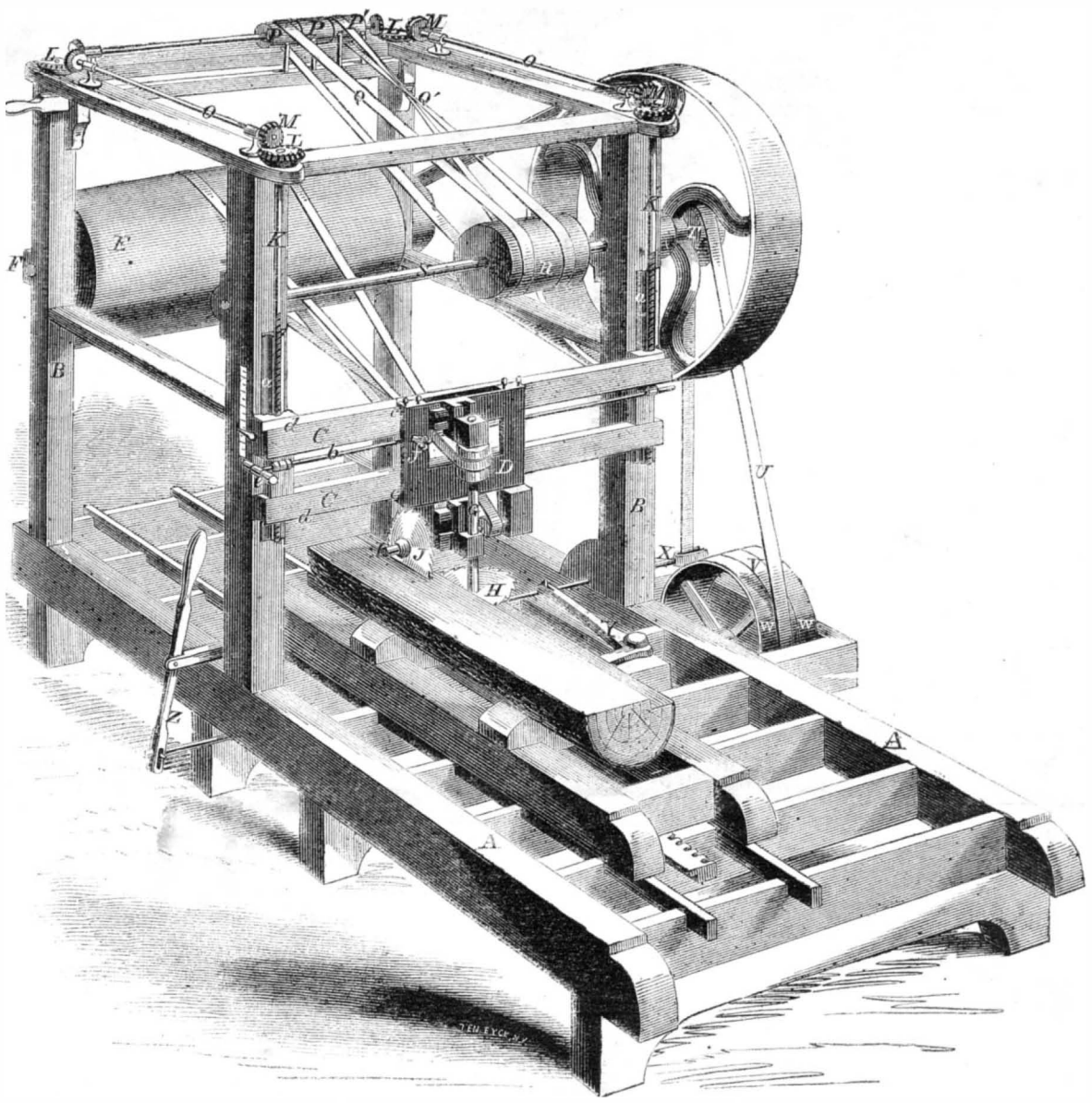
DEWITT'S CIRCULAR SAWING MACHINE.



New Circular Sawing Machine.

This invention consists in sawing rectangular pieces of timber, laths and strips for various purposes direct from the log, by arranging a pair of circular saws at right angles to each other, and operating and adjusting them in such a manner as to enable them to act together at the same time, and any desired sized strip to be cut from the log by the simple act of moving the log in either direction under the saws.

Our illustration represents a perspective view of the machine, in which A is the lower horizontal frame, on one end of which is erected another frame, B, consisting of four vertical posts secured by cap pieces at top, and having a horizontal transverse rising and falling frame, C, in front, provided with V-shaped guides, *c d*, which frame is arranged on a transversely moving frame, D. To the front part of the frame, D, are secured boxes in which is suspended the vertical shaft, G, of the horizontal circular saw, H, which receives its motion from a band passing around a pulley near the upper end of the saw shaft, and around a horizontal transverse drum, E, whose journals turn in suitable boxes, F, at the rear of the machine. Immediately below the vertical frame, D, and slightly in the rear of the saw shaft, G, is arranged a horizontal transverse shaft, I, which turns in suitable boxes secured to the lower part part of said frame, D, on the end of which horizontal shaft is secured a vertical circular saw, J, corresponding in every respect with the saw, H, but arranged at right angles to it, with the cutting edges of the two in such relation to each other as to cut out a perfect right angle from the log when operated. The saw, J, is driven by a band passing around a pulley on its shaft, and around the drum, Σ, at the rear of the machine, and the edge of the two saws, saws, H J, are adjusted to the proper relation to each other, by sliding the boxes of the vertical shafts, G, in vertical grooves formed in dovetail tongued blocks, which have a horizontal movement in grooves formed in projecting pieces secured to the frame, D ; suitable screws being provided to secure them at the desired positions. The horizontal frame, C, and its attachments, have an up and down movement over suitable ways or guides, *a*, by means of vertical screw rods, K, secured in suitable boxes in front of the upright front posts of the frame, B, and passing through female screws formed in or secured to the ends of the frame, G, which screw shafts, K, have bevel cog wheels, L, on their upper ends, which mash in gear with corresponding bevel cog wheels, M, secured in the ends of horizontal shafts, O, having similar cog wheels, M, at their opposite ends which mash in gear with similar bevel cog wheels, L, at this end, which also mash in gear with the bevel cog wheels in a horizontal transverse shaft, on which is secured a pulley, P, having loose pulleys, P′ P′, on either side of it. Around these pulleys pass bands, Q Q′, one of which is twisted, and both of which pass around a pulley or drum, R, on the main horizontal driving shaft, S, which shaft is also provided at its end with a band wheel for receiving the motive power band, and a smaller pulley, T, around which is passed a band, U, also passing around a pulley. V, turning loosely on the horizontal transverse shafts which give the required traversing movement to the log carriage, by respectively transferring it from the loose pulley to either of the pulleys, W, secured respectively upon the hollow shaft by which the carriage is moved in one direction, and upon the shaft which passes through the same for giving a reverse movement to the carriage.

The vertical frame, D, and its attachments, is moved transversely in order to regulate the width of the piece of timber to be cut, by means of a horizontal bar, *b*, passing through guide openings in ears secured to the end of the frame, C, and the back of the frame, D, and having a handle, *e*, at its end, by which with the aid of a clamp screw, *f*, a traversing movement can be given it, the distance between the shoulders secured on it, and the guiding ear at one end arranged between said shoulders, in the following manner: Suppose it is desired to increase the width of the board or strip of timber to be cut from the log, the clamp screw is pressed upon the rod, *i*, and the said rod is drawn outward by its handle, as far as the shoulder on it between the guide ear near its end, and the frame, D, will permit, the said rod bringing with it the frame, D, circular saws and other attachments. The screw, *f*, is then unclamped, and the rod, *b*, is forced past it in a reverse direction until the shoulder on said rod, between the guide ear and handle, is again in contact with said ear, when the screw, *f*, is again clamped on the rod, *b*, and the operation repeated until the frame, D, and saws, H J, are moved the required distance when the screw *f* is firmly clamped upon the rod, *b*, to secure the frame, D.

From a careful perusal of the foregoing description, the operation will be readily understood. The motive power is applied to the shaft, S, and from it power is transmitted respectively to the wheels, V W W, as occasion may require, by the band, V, its transfer to either being effected by the bar, X, and lever, Z, so as to give a motion either way to the carriage and log or timber from which the slats are to be cut. In case it is desired to raise or lower the horizontal frame, C, and saws, H J, and other attachments, one of the bands, Q Q, as the case may be, is transferred from the loose pulleys, P′ P′, to the pulley, P, until the gage bar at the end of the frame, C, indicates on the graduated plate the desired hight, when both bands, Q Q′, are again made to surround the loose pulleys, P′ P′.

This machine, to whose efficient action we can testify from personal observation, was patented December 29, 1857, by E. H. Dewitt, of Xenia, Ohio, and any further information can be had by addressing B. N. Strong, D. B. Tiffany, and Dr. J. G. Kyle, Xenia, Ohio, or Daniel Strong, Wethersfield, Conn.

Tanneries.

According to official statistics there are 6,263 tanneries in the United States, of which the south has about one-third. Pennsylvania alone has nearly one-sixth part of the whole number, or 1,039. The southern States rank in the following order:—Tennessee has 394; Virginia, 341; Kentucky, 275; North Carolina, 151; Alabama, 149; Missouri, 148; Georgia, 140; Maryland, 116; Mississippi, 92; South Carolina, 91; Arkansas, 51; and the other southern States a less number each. The entire capital invested in all the tanneries in the land is $18,900,557, the number of skins in them being 2,658,065, and the number of sides of leather counting up 12,257,940.

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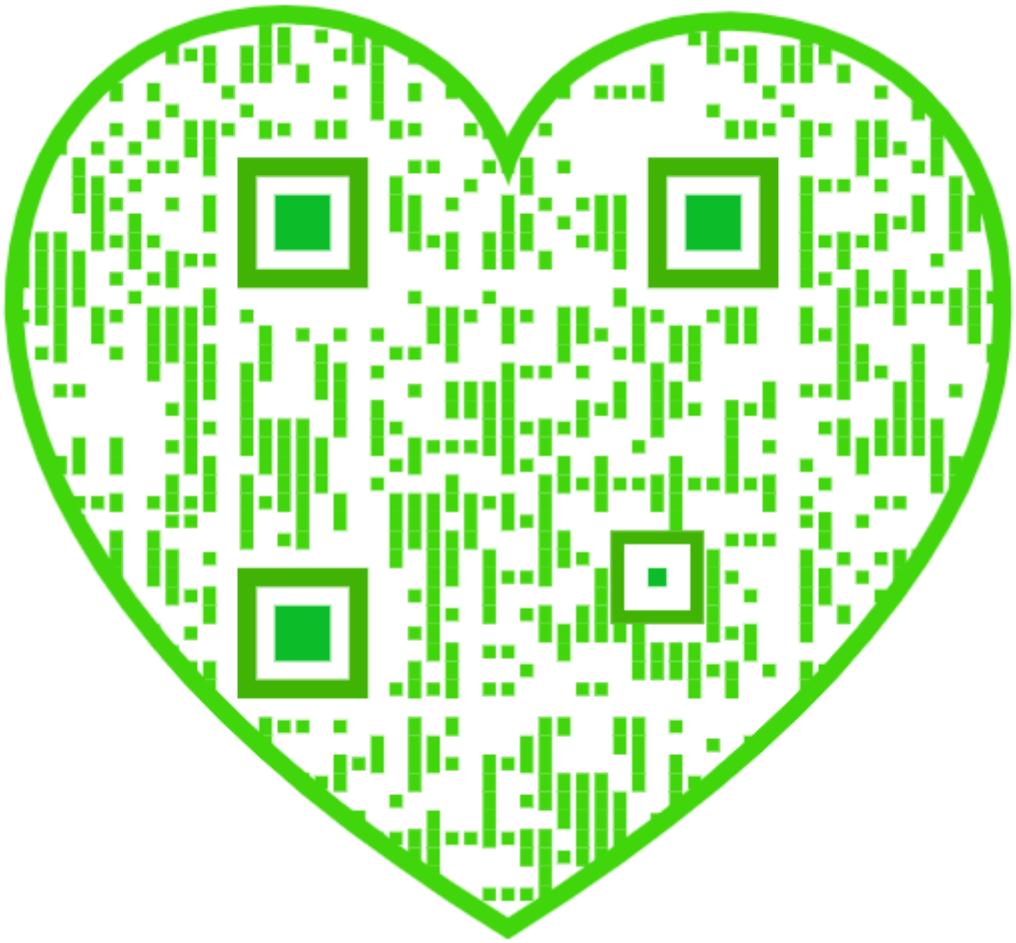

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*** Circulars giving full particulars of the mode of applying for patents, size of model required, and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the SCIENTIFIC AMERICAN, New York.

COUPLING FOR BALE HOOPS—John Agnew, of Columbia, S. C. : I claim the socket, A, provided with the double taper opening, a, in connection with the loops, b b, at the ends, B B, of the hoops, substantially as and for the purposes set forth.

HILLSIDE PLOWS—H. S. Akins, of Speedsville, N. Y.: I do not claim, broadly, the combination of the reversible mold board with the adjustable colter.

But I claim, first, The reversible moldboard and colter in combination with a reversible clevis in the manner and for the purposes substantially as described.

Second, Attaching the hook, L, to the lever, I, which operates the colter, E, thereby making the operation of reversing the hook, adjusting the colter and fastening both the moldboard and colter in their respective positions by one and the same hook, aud at one operation as set forth.

Third, The reversible chain clevis, O, for the purpose of producing reversible side draft, when connected and operated in the manner substantially as described.

MACHINE FOR CLEANING HOSE, &C.—John B. Alden, Jr., and E. L. Gates, of Worcester, Mass. : We are aware that revolving brushes are not new, and do not claim such, as they have been used, but only when constructed and operating as described.

We claim the combination and arrangement of the brushes, one or both of which is movable to and from the other during operation, and the rolls, F F I, when constructed and operating in the manner and for the purposes substantially as described.

COTTON SEED PLANTERS—H. P. Allen, of Bowling Green, Ky. : I claim, first, The combination of the hook, when arranged to reciprocate, with rotating hopper, substantially as and for the purposes set forth.

Second, The tangentially set shelves when slotted and used on the inner circumference of a rotating hopper, which has a continuous discharge passage, G, as specified, and for the purpose set forth.

REMOVING SPARKS FROM THE SMOKE STACKS OF LOCOMOTIVE ENGINES—Jacob A. Alter, of Johnstown, Pa.: I claim a scraper constructed and arranged so as to scrape such parts of the spark arrester, smoke stack and chimney of locomotive engines and other furnaces as require cleaning, and clean them of the soot and sparks substantially as described.

I also claim in combination with the said scraper a ratchet wheel and pall or such equivalent device as will enable the fireman to operate said scraper by hand, or connect it to some part of the engine so that it will be operated by it, substantially as described.

I also claim the pipe or spout, K, for conducting the soot and sparks from the spark arrester or smoke stack, substantially as described.

SEWING MACHINES—Solomon Andrews, of Perth Amboy, N. J.: I am aware that the square or parallelogram motion has been employed for feeding the cloth in sewing machines, therefore I do not claim this movement.

But I claim the combination of the wedge and lever piece, Fig. 7, and feeding foot, Fig. 3, constructed and operating in the manner substantially as described for the purpose specified.

SECURING PLANE IRONS TO THE STOCKS OF BENCH PLANES—Leonard Bailey, of Winchester, Mass. : I claim the application and arrangement of one or more bearers, F, the clamp lever, G, and the thumb cam, H, together and with respect to the top surface of the plane-iron and the bearing surface or cutter seat, d d, of the throat, substantially as represented and described.

LOOMS FOR WEAVING SKIRT FRINGE—James Beck, of New York City : I claim the employment of shears in combination with the rod around which the fringe threads are carried, substantially as described, for the purpose of cutting the said threads on the rod, as set forth.

UMBRELLAS—Charles Boernicke, of Baltimore, Md. : I claim constructing a pocket umbrella as described, consisting of rods, D D D 2, E F G, joint lever, n 5 p, collar piece, a 3, rod, C, with projection, m, stick, A A' A 2 A 3, provided with disks, a a 1 a 2, and lever, b, with springs, c, all combined and operated as set forth.

SEEDING MACHINES—T. J. Bottoms, of Thomasville, Ga. : I claim the eccentric pin, i, lever, d, spring c, valve, m, spreader, n, rag pin, l, slide, o, and hopper, b, the whole arranged and operating as described for the purposes specified.

PORTABLE FENCE—R. J. Brown, of Perry, Pa. : I claim constructing a portable fence, without posts, by locking the panels together by means of dove-tail tenons and gains in the manner specified. Also, in combination with the above, the use of right and left hand-screws, in the manner and for the purpose specified.

SEED DRILLS—O. H. S. Brumfield, of Centerville, Ind. : I am aware that revolving teeth or arms have been used for clearers and applied to seeding machines. I am also aware that cutters and reciprocating bars have been employed for a similar purpose, but I am not aware that teeth arranged to operate as shown have been used for the purpose mentioned. I do not claim therefore, broadly, the use of teeth irrespective of the arrangement, adaptation and mode of operation, as shown.

But I claim the teeth, a, attached to the rod, G, and placed between the drill teeth, I, when said rod is operated by the pitman, F, and cranks, E, so that the teeth, a, will have the reciprocating and rising and falling movement communicated to them as and for the purpose set forth.

COTTON PRESSES—T. J. Bottoms and J. A. Bullock, of Thomas county, Ga. : We do not claim the parts designated in themselves as new, sepatately considered.

But we claim the combination of the follower staff, C, bridle, h, lever, D, follower, C', and the revolving perforated box, B, operating as described and for the purposes set forth.

ROTARY PUMP—Levi Burnell, of Milwaukie, Wis. : I claim operating the double sets of radially sliding pistons, d d', and f f', in directions at right angles to each other by means of the three-sided stationary cam, g, the rotating cam box, b b', and the cam yokes, c e, arranged and operating with each other in the manner set forth.

MANUFACTURING SHEARS—Wm. S. Butler, of Rocky Hill, Conn. : I claim as a new article of manufacture a pair of shears made of cast iron, with their cutting edges, A', hardened or tempered in the manner described.

RECUMBENT CHAIR—David Buzzell, of Charleston, Mass. : I claim the arrangement and application of a lever, E, and notched cams, F G, to either or both sides of the seat frame, A, and to the back, B, and leg rest, D, substantially as explained and as represented in the drawings.

PRINTERS' COMPOSING STICKS—Alexander Calhoun, of Hartford, Conn. : I claim the application of the band, B, in the manner and for the purpose substantially as set forth and described.

SEWING MACHINES—D. W. Clark, of Bridgeport, Ct. : I claim imparting the necessary intermitent motion to the feed wheel, M, by means of an endless belt, O, and vibrating pincers, Q Q', arranged and operating in the manner, substantially as described.

SEEDING MACHINES—Smith Conklin and George Newton, of Sterling, Ill. : We do not claim, broadly, a perforated reciprocating slide without reference to the form or shape of the perforation and the gauge or regulating bar, H, for such device is common to many classes of seeding machines.

But we claim the arrangement and combinagion of the plate, F, guides, C, bars, G H, and box, E, as and for the purposes shown and described.

SUN SHADES—A. G. Davis, of Watertown, Conn. : I do not claim, broadly, forming an extension handle of two rods, one rod sliding within the other, for this is a well-known means that is employed for the handles of various tools and implements.

But I claim the rod, A, provided with the hub or boss, D, and the pressure bar and stop, f, in connection with the hollow or tubular rod, E, provided with the ferrule, E', the above parts being arranged in relation with the frame, B, and slide, D, substantially as and for the purpose set forth.

CARPET FASTENER—Morris Dewey and Ira Phillips, of Clarendon, N. Y. : We claim the pin and the set as described, combined and arranged for fastening carpets to floors in the manner specified.

RAILROAD CAR SEATS—John C. De Witt, of West Bloomfield, N. J. : I claim sustaining the bottoms, D, of the car seats on the slotted corners of the oscillating cradles, A, capable of being turned on horizontal transverse shafts, B, and combining and arranging therewith slotted bars, G, connected at their upper ends to the backs, I, of the seats, by bars, H, and oscillating levers, K, and movable trucks, L, with tilting platforms, O, in such a manner as to enable the seats to be sustained and secured in the proper position to accommodate the passengers in a sitting posture, or their bottoms, D, and backs, I, to be brought to the proper angle of inclination with the tilting platforms, O, and in relation to each other to form sleeping and reclining couches or berths, substantially as set forth.

UPSETTING CARRIAGE TIRE—E. J. Dodge, of Port Washington, Wis. : I claim arranging the anvil blocks or supports to rock on a center in the manner specified, in combination with the arranging of the jaws of the intermediate guide, or support, to be adjusted separately or both together up and down, substantially as and for the purposes set forth.

SASH FASTENER—R. J. Falconer, of Washington, D. C. : I claim extending the cap portion, m', of the catch, m, over and along the front edge of plate, n, to form a catch opening, x, flush with the edge of plate n, so that the window cannot be unfastened without having the point of the hook, a, withdrawn entirely clear from the meeting rail of the upper sash and out of the way of the bars when the lower sash is raised.

METHOD OF SENDING AND RECEIVING MESSAGES SIMULTANEOUSLY OVER THE SAME TELEGRAPHIC WIRE—M. G. Farmer, of Salem, Mass. : I claim the employment of an accessory magnet and an accessory battery to each instrument in combination with the main batteries and main magnets, and with a means of reversing the direction of the current of each of the main batteries, in the manner substantially as set forth.

HANGING MILL-STONES—Joseph A. Forsman, of Cincinnati, Ohio : I claim the combination and arrangement of devices for hanging and adjusting the bedstone and runner to the frame and to each other, substantially as represented, and for the purposes set forth.

CAR SEATS AND COUCHES—K. Freeman, of Fond du Lac, Wis. : I claim making one of the ends of car seats detachable, and the seats on one side of the car so that they can be brought in direct contact with those immediately opposite, in the manner described, so as to transfer the longitudinal passage way from the center to one side of the car, and in combining with the said car seats a series of bars, E F L, and rods, G G1 G2 G3, capable of being folded together, and contained within the lower parts of the seats, or raised and elongated so as to form supports for horizontal single sleeping berths or couches, A1 A2 A3 A4, placed one above the other, at suitable distances apart, the whole being constructed and operated substantially as set forth.

STEAM COCK—Albert Fuller, of Cincinnati, Ohio : I am aware that elastic plugs or valves have been previously used for steam cocks, and that nuts have been arranged or applied to them for the purpose of expanding them.

But I am not aware that any have been arranged like the one described, with a shield and cap, for the purpose of not only expanding the plug when necessary, but also preventing abrasion, and the plug from being forced through the valve seat by the pressure of the steam. I therefore do not claim broadly the elastic plug, E.

But I claim placing the elastic plug, E, on the valve stem, D, between the metallic shield, g, and cap, h, the parts being arranged relatively with the valve seat, a, substantially as and for the purpose set forth.

TOP ROLLERS FOR SPINNING MACHINES—Charles Greene, of Salem, Mass. : I claim the application of a top roller of a spinning machine to its spindle, so as to be capable of rocking and rotating them, substantially in manner and for the purpose specified.

METHOD OF STRETCHING BOOTS AND SHOES—George W. Griswold, of Carbondale, Pa. : I claim stretching boots or shoes from the outside, and at any part or point, without stretching other parts or points by means of a skeleton last on the inside and a pressing apparatus, substantially such as that described, on the outside of said shoe or boot.

PORTABLE HOUSE BELL—Albert W. Hale, of New Britain, Conn. : I claim a spring hammer tongue, E, provided with a projection, g, so arranged as to be operated upon by a pin, e, attached to an arbor, C, for the purpose set forth.

DRAWING BOARDS—Issachar P. Hansell, of Springfield, Ill. : I claim the strips, B B, placed at each side of the board, A, and having their outer edges curved, or made of concave form, in the manner described, and used in connection with the square having its blade, C, and head, D, arranged relatively with respect to each other, as set forth, the whole being for the purpose specified.

MILLS FOR SUGAR CANE—Jeremiah Howard, of New York City : I claim the employment or use of a pump, G, water reservoir, F, and valve, J, in connection with necessary pipes, H I, and cylinders, E, provided with pistons, D, acting on the bearing of the roller or rollers, the whole being arranged as shown, or in any equivalent way, so as to operate as and for the purpose set forth.

LOCK-JOINT FASTENER FOR STUDS, &C.—Ira A. Ives, of New York City : I do not wish to be understood as limiting any claim of invention to the two special modes of application described, as no doubt, other modes of applying the principle of my invention may be devised.

What I claim is the spring hinged pin, in combination with the recess, substantially as described, and for the purpose specified.

HYDRANT—James R. Higgs, of Utica, N. Y. : I claim first, The cylinder, C, constructed substantially as described.

Second, the combination of the cylinder, C, with the upper valve, E, and its rod, G, when contained and operated in case, A, substantially as described.

Third, The combination of the cylinder, C, and valve E, with the waste rod, S, and waste pipe, a, substantially as described.

Fourth, The combination of the cylinder, C, and valve, E, with the lower valve, F, substantially as described.

APPARATUS FOR PRISON ALARM—William O. Hills, of Nottingham, N. H. : I claim the tubular or chambered window or door grating, an alarm apparatus and an air pump or apparatus as described, or the equivalent therefor, combined so as to operate together, substantially in manner and for the purpose as specified.

SAD IRON HEATER COVER—William Heath, of Bath, Me. : I claim the described cover for sad iron heater, constructed and operating in the manner substantially as described,

LIFTING JACKS—Joel C. Jackson, of Rochester, N. Y. : I claim the arrangement of the screw, c, slides, s s, and nut, N, in combination with the bar, B, or fork, T, in the manner and for the purpose substantially as described.

HARVESTING MACHINES—Henry G. Kaufman, of St. Louis, Mo. : I claim, first, The described arrangement and combination of the wheel, C, with the devices before described, viz., the levers, p and q, turn table, B and m, and the ratchet, C, and standard, r, for the purpose of operating the said wheel so as to guide the machine, and raise the knives, h h, from the ground, substantially as set forth, for the purpose specified.

Second, The combination of the finger plate, K', with the knife plate, M, and the knives, h h h, when these several parts are constructed, relatively arranged, and operated in the manner and for the purpose specified.

LAMPS—James P. Kenyon and Ellen Kenyon, of Brooklyn, N. Y. : We claim first, Constructing and arranging the wick tubes so that the orifice of the air passage at the upper ends of said tubes may be expanded or contracted without the necessity of changing the relative position or location of the lower ends of said tubes to each other, substantially as and for the purposes set forth.

Second, The band, D, provided with the ears, E, applied to the wick tubes, C C, and used with or without the central strip, N, for the purpose specified.

METHOD OF ATTACHING THE SPREADER TO SAWS OF CIRCULAR SAWING MACHINES—William D. Leavitt, of Cincinnati, Ohio : I do not wish to be understood as claiming the spreading flange when taken separately.

But I claim furnishing the side of the saw plate with the groove or recess, 4, when the spreading flange, y y, is arranged therewith in the manner represented, for the purpose of preventing the end of the lumber when being sawed from butting against or catching to the end of the said flange, as mentioned in the specification.

LOCKS—John P. Lord, of Manchester, N. H.: I claim first, The application of the guides, a a a a, or their equivalents, also the groove, B, and spring, C, or their equivalent, substantially as specified.

Second, The application of the tongue, D, and guards E E E E E, or their equivalent, combined with the bolt, n, substantially as specified.

Third, The application of the slotted stud, substantially as specified.

Fourth, The application of the slotted rotary wards, G G G G G, or their equivalent, in combination with the driving pins, h h h h h h h h h h h, and indicator I, or their equivalent, constructed substantially as specified.

Fifth, The application of the driving ward gear, J, and driving bolt gear O, or their equivalent, constructed substantially as specified.

Sixth, The application of the key, L, in combination with the ward and bolt gears, substantially as specified.

HINGES FOR WINDOW BLINDS—John Loudon and Hans Iversen, of New York City : We do not claim a hinge formed with a latch to retain the blind.

But we claim the combination of the lever, h, on one part of the hinge with the plate, f, on the other part, for the purposes and as specified.

We also claim the plates, f and g, connected with the respective parts of the hinge by the countersinks, and holding said hinge in the desired position by the cam lever, h, and notches in the plate, f, as set forth.

METHOD OF SEALING PRESERVE CANS—W. W. Lyman, of West Meriden, Conn. : I claim exhausting and sealing fruit jars and cans, or other similar vessels, by means of the tube, C, the cement, e, and opening, c, and an exhausting apparatus, D, substantially as described, by which means the operation is rendered very easy, simple, and effective, and the closing of the air vent accomplished by the same device, through or by which the air is drawn from the can.

SEEDING MACHINES—J. B. McCormick, of Versailles, Ky., and Wm. R. Baker, of Boston, Mass. : We do not claim broadly the employment of a hollow wheel for depositing the seed.

But we claim the arrangement and combination of the rotating wheel, G, with the stationary plates or shares, H, substantially as and for the purpose shown and described.

SEEDING MACHINES—E. L. Lyon, of East Randolph, N. Y. : I do not claim broadly attaching seed-distributing devices to wheels.

But I claim the sliding seed boxes, F, attached to the radial bars, E, and outer end pieces, a, of the seed boxes, being provided respectively with the recesses, e f d, and the outer ends of bars, E, projecting beyond the peripheries of the wheels, the whole being arranged for joint operation substantially as and for the purpose set forth.

I also claim, in combination with the above-named parts, the covering shares, H, arranged substantially as described.

MACHINE FOR BENDING FELLOES—John L. Mann, of Ravenna, Ohio : I claim the arrangement of the mounted forming block, and the system of tracks, D E F G, operating as described, when used in combination with the apparatus described, operating in the manner and for the purpose set forth.

RAILROAD CAR SEATS—C. M. Mann, of Detroit, Mich. : I claim the two car seats, constructed as stated, substantially so that they may be turned from the ordinary form of seats, one to the right, the other to the left, one-fourth round, bringing the ends next the windows to meet together, and the backs or hinges may be turned over and fall upon the ledge upon which the ends before rested, and are held firmly in place as a bed by the pin, c.

I also claim the bed formed as above claimed, in combination with the door, h, and pillow, which, being on hinges, opens into place upon the bed for use, or may be instantly shut out of the way and out of sight at pleasure.

I also claim the columns, B, each containing and concealing two counter weights, in combination with the upper and lower movable beds, as described, and for the purposes mentioned only.

I also claim the general device as set forth, combining the upper and lower beds and seats with the legs and columns and counter weights, all convertible as set forth, either into beds or seats, for four, at pleasure, so that all, or a part of them, may sit up or lie down in the space occupied by four persons.

CHILDRENS' CARRIAGE—William P. McKinstry, of New York City : I claim the use of three draft bars or handles, A A2 and B, attached to a child's carriage, and operated substantially as described and shown in the drawings.

WELDING BELLOWS PIPE—A. Pearsall, of Nashville, Tenn. : I claim the inclined mandrel, C, clamps, E E, and roller, I, combined and arranged for joint operation substantially as and for the purpose set forth.

SEEDING MACHINES — Lewis Moore, of Ypsilanti, Mich. : I claim the combination of the zig-zag strip, D, projecting from the bottom of a reciprocating bar, C, with an adjustable gage plate, B, which has different sized cells, b c, and with a hopper, A, having oblong slots or discharge passages, a, in its bottom, substantially as and for the purposes set forth.

HEMMING GUIDES FOR SEWING MACHINES—Henry B. Ordiorne, of Philadelphia, Pa. : I lay no claim to any device described in the patent of S. P. Chapin, or to that of S. C. Blodgett, granted Jan. 3, 1854.

But I claim constructing the pressure pad of a sewing machine with recesses, arranged and formed substantially as described, in combination with the curved tongue, B, or its equivalent, for the purpose specified.

CAR SEATS—William Painter. of Wilmington, Del. : I claim first, Jointing the ends of the backs, F, of the seats to the swinging bars E, at points between the centers and corners of the same, and combining and arranging the pins or studs, G, on the ends of the backs, F, and the pins or studs, I, on the faces of the arm rests, or on the ends of the backs, in such relation to the bars, E, and slots, H, as to enable them to be suspended in the proper relation to the bottoms, A, of the seats, to form the usual seats, or to be swung and extended, to form reclining or sleeping couches, substantially in the manner described.

Second, I also claim the combination of the spring bars or catches, c, having studs at their ends and segmental slots, D', with the swinging seat bottoms, substantially in the manner and for the purpose described.

COTTON GINS—Henry C. Parkhurst, of New York City : I do not claim generally a hopper for cotton gins.

Neither do I claim the mouth or opening beneath the board, i, adjustable as set forth.

But I claim constructing the hoppers of cylinder cotton gins with the fixed end pieces, f, and movable end pieces, g, on the breast board, h, attached by the joint, 2, as and for the purposes set forth.

HORSE RAKES—L. H. Parson and George Houston, of Middletown, N. Y. : We claim the arrangement and combination of the rake, E, toothed sector, F, toothed ring, d, supplemental springs, k, and clearers, l, substantially as and for the purposes set forth.

MACHINE FOR TIGHTENING AND SECURING METALLIC BANDS FOR COTTON BALES, &C.—George W. Pennington, of North Vernon, Ind. : I claim the construction of my hoop tightener and holder, in connection with doors, D D, and arms, B B, and lever A, constructed as described, or any other construction substantially the same, and which will produce the same results.

OILING THE THREAD FOR SEWING MACHINES—Truman W. Pepper, of New York City : I am aware of the patent granted to I. M. Singer, May 30, 1854, wherein he claims oiling the thread with linseed oil mixed with a dryer, which he accomplishes by passing the thread into and out of a cup, said thread being passed over the edges of the cup, and made to pass near the bottom thereof by means of a guiding eye.

I am also aware of the patent granted to Salem Wilder, January 30, 1855, for waxing thread, wherein thread is passed into and out of a cup in a manner identical with Singer, and I therefore claim no part, device or thing in these patents.

But I claim the described improvement in oil vessels for sewing machines, namely, providing the vessel with the regulating plug, a, neck or spout, b, and porous material, c, over which the thread is drawn, arranged and operating in the manner substantially as described.

MACHINE FOR MAKING CHAIN—E. P. Perry, of Providence. R. I. : I claim the combination of a separating die, F F, with the tube, wherein the chain is formed, for the purpose of permitting each link of the chain after it has been struck into form to be transmitted to the tube, substantially as described.

CORN HUSKERS—C. J. C. Peterson, of Davenport, Iowa : I claim. first, The feeder when constructed, arranged and operating substantially as described for the purpose set forth.

Second, The butter, when constructed, arranged and operating substantially as described for the purpose set forth.

Third, The husker, when constructed, arranged and operating substantially as described for the purpose set forth.

Fourth, The farmer when constructed, arranged and operating substantially as described for the purpose set forth.

Fifth, The receiver, in combination with the farmer, husker, butter and feeder, when these several parts are arranged to operate conjointly as and for the purpose specified.

CARDING MACHINES—Charles E. Price and Jas. Haythorn, of Thompsonville, Conn.: We are aware that an endless apron has been used as a carrier for the purpose of removing the fleece at the front of the doffer, and we are also aware that a spiral conveyor is of familiar application in machinery; therefore we do not claim broadly either the endless belt or spiral conveyor.

But we claim the spirally grooved or threaded cylinder, E, applied in the manner substantially as described, in combination with the doffer and comb, and with a tube, F, to operate as set forth.

CARPET FASTENER—Joseph Reynolds, of New Britain, Conn.: I claim the hook and plate in one piece as described, as a new article of manufacture, substantially as set forth.

VALVE COCKS—J. R. Robinson and H. S. Robinson, of Clinton, Mass.: We claim, first, The construction of the valve, whether in one or two pieces, valve spindle, and valve case, in the manner described, so as to make a straight passage through the valve, spindle and case, for the reasons specified.

Second, Making the valve in two pieces for the reasons specified.

Third, When the valve is so made, running the springs through the spindle for the reasons specified.

STRAW CARRIERS OF THRESHING MACHINES—F. W. Robinson, of Richmond, Ind.: I am aware that a platform or table has been previously combined with one endless chain of slats, in a manner somewhat similar to mine, though for a dissimilar object, as in the case of J. C. Birdsall's clover huller, of May 18th, 1853; such parts therefore of themselves I do not claim.

But I claim the combination of the perforated platform, F, with the endless chain of slats, D, in the manner and for the purposes set forth.

SHUTTER OPERATORS—Isaac Rogers, of Owego, N. Y.: I claim the described apparatus for opening and closing window blinds, viz., the lever, f, rod, d, cranck, c, and slide, o, the whole being arranged on the shutter and window frame as set forth, combined and operating substantially in the manner described.

SHEARS—James H. Roome, of New York City : I do not claim broadly the connection of one blade with its handle by means of a link or rod, for I am aware that this is old; nor do I claim broadly the slotting of the stationary blade and handle.

But I claim the combination of the additional connecting rod, F, with the rod, D, and upper slotted handle, E, for enabling the leverage exerted by the thumb to be increased with the closing of the upper blade, A, substantially as described.

WINDOW FASTENER—Irving Root, of Austin, Texas : I claim the plate and thimbles, the groove, the spring plate and cylinder, constructed and operating in the manner specified.

APPARATUS FOR PAYING OUT TELEGRAPH CABLE—George Scott, of Wiscasset, Me.: I claim, in combination with a delivering roller or a system of delivering rollers, A B, a tilting lever, G, or its equivalent, and a brake mechanism, or any equivalent therefor, for arresting or controlling the revolution of the delivering roller or rollers, the whole being made to operate in such manner as to increase the paying out or delivery of the cable under increase of tension of it, as described.

I also claim, when the lever is applied to a brake ap-

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paratus and a guide roller, R, essentially as described, combining the guide roller with it by means of a spring, or making the outer arm of the lever as a spring for the purpose of enabling such spring to operate the lever, in manner and under circumstances as set forth.

I also claim combining the inertia weight with the spring lever, so as to cause such to operate as specified, under a sudden upheaval of the stern of the vessel.

FARE BOXES FOR OMNIBUSES, &C.—I. B. Slawson, of New Orleans, La.: I claim, first, The arrangement of an opening in the top of the fare box, through which outside passengers can deposit their fare, when such opening communicates with a chamber in which the fare first falls, and is temporarily arrested previous to being deposited in the receiving drawer beneath, for the purposes set forth.

Second, I claim the arrangement of the passage block, D, and cover, E, over the opening in the top of the fare box, for the purposes described.

CLASPS FOR HOOP SKIRTS—A. Smart, of New York City: I do not claim to be the first inventor of hoop clasps, nor do I claim any part of the described clasp that is seen in the patent granted to T. Wallace, Jr., Jan. 15th, 1858.

But I claim, as an improved article of manufacture, a hoop clasp constructed with a longtitudinal loop, e, substantially as and for the purposes shown and described.

CHURN—John E. Smith, of Galen, N. Y., and Wrightman Brown, of Rose, N. Y.: We do not claim as our invention an automatic churn.

But we claim the combination and arrangement of the cylinder divided into two chambers, for the purposes described, by the partition, M, the close interior case, R, adjustable vane blower and regulator, E, refrigorating passage, Y, and ventilators, v v, operating conjointly, as and for the purpose specified.

SEEDING MACHINES—Joseph D. Smith, of Lancaster, Ohio: I do not claim broadly the employment of two wheels for opening the furrow, the seed being dropped between the wheels.

But I claim the arrangement and combination of the spout, R, wheels, M, frame, H, and frame, D, as and for the purposes shown and described.

FEET WARMING DEVICE—George W. Smith, of Aurora, Ind.: I do not claim broadly, and irrespective of the arrangement and adaptation shown and described, the use of a steam chamber for heating purposes.

But I claim the employment or use of the chamber, I, when applied to a forge, and heated by steam generated within a box, E, or its equivalent, by the force of the forge, substantially as described.

CULTIVATORS—Nathaniel S. Smith, of Buffalo, N. Y.: I do not claim the flanged or broad cutting cylinder, B, nor placing a gang of hoes behind such a cylinder, nor the combination of the comb formed clearer with such a cylinder.

What I claim is the use of the double joint piece, D, to connect the gang of hoes to the axle, when said joint piece extends beyond the axle, and subserves also the purpose of a foot lever to throw the hoes out of the ground, in the manner and for the purpose set forth.

PROPELLER FOR BOATS—Le Grand C. St. John, of Buffalo, N Y.: I claim, first, the construction and use of a propeller case having three conduits arranged on parallel lines, so that the water will be received into the case through the outside conduits at the same stroke of the piston that water is discharged through the middle conduit, and *vice versa*, as set forth.

Second, I claim the arrangement of two revolving pistons, D E, with respect to an enclosing case, whether said case is made single, as represented in Fig. VII., No. 2, or double, as represented by No. 3, Fig. 1, and the combination thereof with a boat, so that in the act of propelling, water will be received into the case at one orifice or channel, and discharged at another orifice of channel, through the bottom of the boat, for the purposes and substantially as set forth.

Third, I claim the construction of my revolving pistons, partly of wood and partly of iron, substantially as described.

MACHINE FOR CUTTING IRREGULAR FORMS—Henry D. Stover, of Boston, Mass.: I claim, first, The guards, 3, and bar, 1, carrying them combined with the revolving cutters and table, in the manner described and for the purposes fully set forth.

Second, I claim the guide, J, so constructed and fitted to the outer surface of the bearing or tube, B, as to be vertically adjustable thereon to guide the pattern without wearing it, while the piece secured to the pattern relieves the shape from the cutting knives immediately above, essentially as set forth.

Third, I claim the combination of the adjustable elastic sleeve, L, with the tube or bearing, B, and guide, J, in the manner described and for the purposes fully set forth.

Fourth, I claim the slabbed spindle, 4, collars, 6, and the cutters, constructed and relatively arranged and operated, in connection with each other, essentially in the manner and for the purposes fully set forth and described.

ROLLING RAILWAY CHAIRS—James H. Swett, of Pittsburg, Pa.: I am aware that the portion of the metal that is to form the jaw or jaws has heretofore been raised up and then bent down into proper position. This injures the fibre of the metal, and makes a bad chair. I do not claim any such method.

But I claim the process of rolling railroad chairs, the cutting under or into the solid iron for the purpose of forming the jaw, after the bar is rolled and bent, and thus avoid the raising up and afterwards bending down of the part that is to form the jaw, as heretofore done.

BRACELETS—Francis M. Sweet, of Syracuse, N. Y.: I do not claim the use of an elastic cord or band for the purpose of stringing loose pieces of jet or beads, as such are in common use.

But I claim the employment of the elastic rubber or spring connection between the two parts of the bracelet, operating substantially as described, and when the parts F and C are furnished with guides in the manner and for the purpose set forth.

HAT BODY MACHINERY—Alva B. Taylor, of Newark, N. J.: Having described my improvement, and a machine in which it is embodied, it may be proper to state that I do not limit it to the precise arrangement and construction described, but intend to vary these as circumstances may render expedient. Thus, for example, both disks of the picker may be caused to revolve either in the same directions with different speeds, or in opposite directions, and the picker may be combined with a perforated former not enclosed in a forming chamber, or with other devices than those described.

I claim the combination of a disk picker operating substantially as set forth, with a perforated former.

I also claim a disk picker composed of two disks, whose faces are studded with teeth operating substantially as set forth, to pick fibrous material fed into the eye of the picker, and to discharge the picked fibre at the run thereof.

GRAIN SEPARATORS—John D. Tifft, of Cuyahoga, Ohio: I do not claim broadly the application of a valve to the fan case, nor do I claim broadly the employment of an adjustable apron or board.

But I claim the employment of a circular side valve, H, in combination with the directing board, J, when the parts are constructed and arranged as shown and described, for the purposes set forth.

TRAVELING CASKET—T. R. Timbey, of Medina, N. Y.: I claim attaching the stiff sides, c c, of the traveling casket to the intermediate metal or other framing, d d, by means of rubber or other springs, B B, substantially as and for the purposes set forth.

OX YOKES—George W. Weeks, of Boston, Mass.: I claim making ox bows and yokes, of iron or other suitable material, hollow, substantially as described, for the object specified.

WASHING MACHINE—Thomas J. Tindall, of New York City: I claim combining with a suitable vessel for containing the clothes, &c., to be washed, and the washing liquid, and the exhausting pump or equivalent therefor, communicating with the said vessel above the intended charge, substantially as described, to exhaust the said vessel above the charge and relieve the pressure, to effect the circulation of the washing liquid by ebullition below the recognized boiling point, as set forth.

ROLLING AND PILING LOGS—William Todd, of Cherryfield, Me.: I claim the combination and arrangement of the tapered roller, E, with the diagonally arranged cylindrical rollers, A, for facilitating and guiding the movements of logs and heavy timbers, and piling the same in ranks or on teams and vessels, substantially as described.

APPARATUS FOR ROASTING COFFEE—Samuel Tower, of Grand Rapids, Mich.: I claim having a portion of each of the journals or axis, B C, attached to each sphere or shell, a b, and otherwise arranged and combined as set forth, so that when the spheres or shells are closed, the axis or journals will be completed, and the shells will be locked, all as and for the purposes described.

BRIDGE—L. E. Truesdell, of Warren, Mass.: I claim, first, An iron bridge constructed with a series of horizontal chords, C in combination with vertical standards, B, and diagonal braces, A, or their equivalents, when the whole is arranged and connected together in the manner substantially as and for the purposes set forth.

Second, I claim constructing the clamp, D, in the manner and for the purposes substantially set forth.

SEEDING MACHINES—Alexander Turner, Redden Bess and Hervey Sloan, of Franklin, Ind.; We wish to secure by Letters Patent the arrangement of the seed boxes, B and C, the seed slides, d and e, rod, H, wheels, G and F, and plows, J J, in the manner specified and for the purpose set forth.

SAFETY VALVE AND PRESSURE GAUGE—James H. Winn, of Portage, Wis.: I do not claim the piston safety valve.

But I claim the weighted pendulous rods and suspended index, L, applied substantially as described in relation with each other, and with the dial, M, and combined with the piston valve by means of a sector, I, chain, e, and rod, d, or their equivalents, to operate substantially as set forth.

ATTACHING THE PROPS OF CARRIAGE BOWS—D. B. Wright and L. Sawyer, of South Amesburg, Mass.: We do not claim the employment of a movable shoulder piece, which screws upon the prop, as in C. Thomas' patent.

But we claim as an improved article of manufacture, a carriage prop in which the prop, C, is rendered independent of its plate, B, substantially as and for the purposes set forth.

CORN PLANTERS—Franklin W. White, of Worcester, Mass.: I claim, first, Operating the seed slides through the rod, p, and its arm, r, and the hole or holes, s, in the wheel, d, substantially as described.

I also claim, in combination with a dropping apparatus, and the double mold boards for opening the furrow, the openings, w, and guides, x, for admitting and directing the earth or soil that is to cover the seed, substantially as described.

TRACE FASTENING—John C. De Witt, of West Bloomfield, N. J., assignor to himself, and Terah Benedict, of Newark, N. J.: I am aware that buckles have been formed with tongues so arranged as to pass through the perforations of traces at right angles, and I therefore do not claim broadly such device.

But I claim the frame or body, D, provided with the tongue, f, projecting from it at right angles, when the frame or body is connected with the plates, e, of the tug, A, by means of the pivots, b b, of said plate, fitting in oblong slots, c, in the sides, d d, of the frame or body, so that the same may be shoved forward and backward to admit of its being locked, and also of being opened, substantially as described.

INKSTANDS—V. Fogerty, of Cambridgeport, Mass., assignor to Francis Houghton, of Somerville, Mass.: I claim, in combination with an inkstand or ink-reservoir, and its mouth, a dipper or vessel so applied within said reservoir as to be capable of being within it, and towards and away from said mouth, substantially in the manner and for the purpose of taking up ink or a liquid from the reservoir, as specified.

I also claim the application of the dipper to the movable cap of the mouth of the reservoir, so as to be operated by the said cap, in manner substantially as explained.

KNITTING MACHINES—Thomas Lovelidge (assignor to himself, and William Tulfirth), of Germantown, Pa.: I claim the pressure plate, E, situated between the two rows of thread guides, d and d', and operated so as to press the loops down the needles, substantially in the manner and for the purpose set forth.

SEED PLANTERS—W. A. Mahaffy, of Carimona, Min., assignor to John Greek, of Evansville, Ind.: I am aware that the reciprocating perforated seed slides have been previously used, and I am also aware that wheels or cylinders provided with seed cells have also been used for distributing seed, but I am not aware that reciprocating slides have been used in connection with rotating cylinders, provided with seed cells and pins to serve as cams or tappets to actuate the slides, and also as conveyors to carry the seed to the conveying tubes. I do not claim, therefore, separately and broadly, the seed slides, nor the wheels provided with seed cells.

But I claim the seed slides, b, in combination with the wheels or cylinders, E, arranged for joint action, substantially as and for the purpose set forth.

REGULATING THE TENSION OF THE THREAD IN SEWING MACHINES—John T. B. Rogers, of New York City, assignor to George B. Sloat, of Philadelphia, Pa.: I do not claim regulating the tension of the thread by graduated friction thereon, or by causing it to pass over variable angular surfaces.

But I claim the combination, substantially as shown and described, of the cone, A, and conical cap, B, for the purposes set forth.

CUT-OFF FOR STEAM ENGINES—Jacob Windmer (assignor to himself, and Howard Gilbert), of New Haven, Conn.: I am aware that many regulators and cut-offs for the steam engine have been known and used, some of which have been regulated by the pressure of the steam. I therefore do not claim regulating the uniformity of the motion of the piston by the pressure of the steam, as such, as my invention.

But I claim the combination of the bevel gear pinion, J, operated by the endless chain, L, and rod, M, with the bevel gear wheel, H, with its cam, G, when the whole is constructed, arranged and made to produce the result substantially as described.

RE-ISSUES.

HARVESTERS—W. H. Seymour and D. S. Morgan, of Brockport, N. Y., assignees of N. Platt, formerly of Ottawa, Ill.: Dated June 12, 1849: reissued May 23, 1854: What is claimed under the patent as the invention of the said Nelson Platt is,

First, Combining with a machine for cutting grain and gathering it upon a platform, a raking mechanism which at suitable intervals sweeps the grain off the platform, changes the direction of its stalks relative to the path of the machine, and discharges it upon the ground in gavels, substantially as set forth.

Second, The employment of a sweep or vibrating rake, operating in such manner, that while sweeping the grain off the platform and discharging it upon the ground, it will change the direction of the stalks, as described.

Third, The method of vibrating a sweep rake, and turning its teeth in such manner that they will pass over the grain, points foremost at intervals to reach back and seize the grain and sweep it off the platform, whether the devices employed to effect these movements be such as described, or others equivalent thereto.

Fourth, The method of holding a sweep rake firmly, while raking the grain with the points of its teeth, in the proper position relative to the platform, by means of a latch or other equivalent thereto, which operating with a greater certainty than a weight, spring, or other fastening not rigid, more effectually prevents the rake teeth from rising to override the grain, and at the same time avoids the necessity of moving a heavy weight, or of overcoming the tension of a strong spring, in elevating the rake preparatory to its retrograde stroke.

Fifth, The construction and arrangement of a sweep rake and the mechanism for operating it, in such manner that it is carried back and forth, and its teeth raised and lowered, without support at the outer end,

Sixth, Changing the frequency of the alternations of the raking mechanism, by means of the shifting gear or other equivalent devices, for producing a varying rate of motion for the purpose of varying the size of the sheaves as may be required, substantially as set forth.

HARVESTERS—William H. Seymour and D. S. Morgan, of Brockport, N. Y., assignees of N. Platt, formerly of Ottawa, Ill. Dated June 12, 1849; reissued May 23, 1854; re-reissued August 31, 1858: What is claimed under this patent as the invention of the said Nelson Platt, is the combination of the vibrating sweep rake with the lever carrying the same, vibrated by gearing located within the inner edge or circle of said platform, as set forth.

HARVESTERS—William H. Seymour and D. S. Morgan, of Brockport, N. Y., assignees of N. Platt, formerly of Ottawa, Ill. Dated June 12, 1849; reissued May 23, 1854; re-reissued August 31, 1858: What is claimed under this patent as the invention of the said Nelson Platt, is constructing that portion of the platform of the reaping machine which is traversed by a rake working above it, with a solid floor so shaped as to allow the points of the teeth of the rake to move below the plane traversed by the grain, substantially as set forth.

HARVESTERS—William H. Seymour and D. S. Morgan, of Brockport, N. Y., assignees of N. Platt, formerly of Ottawa, Ill. Dated June 12, 1849; reissued May 23, 1854; re-reissued August 31, 1858: What is claimed under this patent as the invention of the said Nelson Platt, is the combination af a vibrating sweep rake with a fence or guard, to prevent the grain from being deflected from the path of the rake by centrifugal force, substantially as set forth.

STEAM BOILERS—F. P. Dimpfel, of Philadelphia, Pa. Dated April 1, 1856; reissued August 31, 1858: I claim the arrangement of the tubes and the connection of one or more receptacles, substantially such as described, for consuming the fine particles of coal which are carried by the force of the blast or draught from the fire chamber into the flues, the said receptacle being placed below the bottom of the main flue, and communicating therewith, and between the fire chamber and a check or deflector, or between checks and deflectors in the main flue, to check the momentum of the particles of coal, and cause them to drop into the receptacle to be consumed substantially as described.

I also claim, in the construction of the boiler substantially as described, forming a single flue in the middle, for the passage of the products of combustion from the main flues surrounding the water tubes to the smoke box, when this is connected with a check or deflector placed in the main tube, among the water tubes and in front of the said middle flue, substantially as described, to prevent the products of combustion from taking a direct course to the said middle flue, as described.

I also claim arranging the bent up ends of the water tubes where they are connected with the crown sheet of the furnace, in a series of double longitudinal rows, and leaving spaces between the double rows of greater width than the external diameter of the water tubes, substantially as described, to admit of taking out and inserting the tubes, whilst in other respects the said tubes may be placed as near to each other as may be desired.

I also claim interposing the net-work or plate between the rear end of the flue and the smoke stack, and the exhaust pipe, as and for the purpose set forth.

And I also claim combining with the deflector in the smoke box the receptacle for the sparks or fine particles of coal dust, substantially as described, for preventing the sparks from being consumed or accumulating in the smoke box, and interfering with the draught, as set forth.

MANUFACTURE OF TEXTILE HOSE—Linus B. Cooley, S. Babcock and B. G. Cooley, of Middletown, Conn., assignees of L. B. Cooley, and James C. Cooke. Dated March 16, 1858; reissued August 31, 1858: We claim the double tube or hose as a new article of manufacture, woven in the manner and for the purpose specified, and this we claim, whether our new manufacture be used for hose belting, card clothing, shoe soles, harness pads, and traces, or any other purpose.

DESIGNS.

COOKING STOVE—William P. Abendroth, of Rochester, N. Y.

SCREENS—James L. Jackson, of New York City.

BREAD-PANS—Nathaniel Waterman, of Boston, Mass.

EXTRAORDINARY SUCCESS.—In the foregoing list of patents issued on the 31st ult., we recognize the names of THIRTY-FIVE patentees whose cases were prepared and successfully prosecuted through the agency of Munn & Co. With our extraordinary facilities for the vigorous and careful prosecution of the claims entrusted to us, before the Patent Office, it is no wonder that so large a share of the business comes to our hands. With the facilities at our command we could quite as successfully undertake the care of every application made to the Patent Office—the more business entrusted to us, the greater the seeming success. Circulars of advice sent free.

Large Cholera Prize.

The Paris Academy of Sciences has again advertised its prize, amounting to about $20,000, for the discovery of the cause and the effectual cure of cholera. This prize is a bequest left some years since by M. Briant, and a competition has already taken place for it, without success. No less than one hundred and fifty-three essays were presented on the subject, but only two of them came within the scope of the conditions. One was by the chief physician of the hospital of Smolensko (Russia), the other by Dr. Ayre, of London. The first maintained the identity of the virus of cholera with that of smallpox and typhus, and he proposed the innoculation of persons with the smallpox virus while the cholera was raging. It was asserted that by doing so six out of every seven cholera patients would be cured.

The London physician maintained that eight out of ten persons could be cured by administering doses of calomel at the rate of one grain for adults, every five minutes, for the space of an hour. Neither of these proposed systems for curing cholera were accepted by the Academy of Sciences. The ground was taken by its members that a person to be entitled to the prize must discover a specific as sure and certain for the cure of cholera as quinine is for intermittent fever; also that the remedy should be as efficient for causing the disappearance of this disease as vaccination has been for virulent smallpox.

This is a prize worth striving to win by all the physicians in the world, not so much on account of the prize itself—although the sum is tempting—but for the benefit such a discovery would confer upon suffering humanity.

Pins and Needles.

The manufacture of the indispensible little pin was commenced in the United States between 1812 and 1820, since which time the business has extended greatly, and several patents for the manufacture of pins have been taken out. The manufacture in England and other parts of Europe is conducted upon improvements made here. Notwithstanding the extent of our own production, the United States imported in 1856 pins to the value of $40,255, while in the same year there were imported into this country needles to the amount of $246,060. Needles were first made in England in the time of "bloody Mary," by a negro from Spain, but as he would not impart his secret, it was lost at his death, and not recovered again until 1566, in the reign of Queen Elizabeth, when a German taught the art to the English, who have since brought it to the greatest perfection. The construction of a needle requires about one hundred and twenty operations, but they are rapidly and uninterruptedly successive.

Water.

Potatoes contain 75 per cent (by weight), and turnips no less than 90 per cent of water. A beefsteak, though pressed between blotting paper, yields nearly four-fifths of its weight of water. Of the human frame, bones included, only about one-fourth is solid matter (chiefly carbon and nitrogen), the rest is water. If a man weighing one hundred and forty pounds was squeezed flat under a hydraulic press, one hundred and five pounds of water would run out, and only thirty-five pounds of dry residue remain. A man is, therefore, chemically speaking, forty-five lbs. of carbon and nitrogen diffused through six buckets of water. Berzelius, indeed, in recording the fact, justly remarks that the "living organism is to be regarded as a mass diffused in water;" and Dalton, by a series of experiments tried on his own person, found that of the food with which we daily repair this water-built fabric, five-sixths are also water.

A NEW method of navigating canals has been announced by M. Leterre, and tried, it is said, with success. By means of a fixed wheel, turned by one man, a current is established in less than ten minutes throughout the whole length of the canal, so strong as, without any other motive power whatever, to carry forward a barge with its full load. The first experiment was tried on a ditch near Paris, under very unfavorable circumstances; nevertheless, M. Leterre had his paddle wheel set in motion, and in less than four minutes a laden barge followed the course of the current formed by the revolution of the fixed wheel for a distance of 3,500 feet. When will the wonders of French discoveries cease?

SINCE 1850, the time occupied by steamers crossing the Atlantic between this city and Liverpool is shortened two days. The amount of fuel consumed in the voyage so shortened is twice that formerly required by the steamers who took the longer time.

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New Inventions.

Improvement in Electrotyping.

The *National Intelligencer* says an improvement in the process of electrotyping has been made, by which electrotypes can be produced with great rapidity and accuracy. The improvement consists in covering the face of the wax or other material of which the matrix is made, with fine metallic leaf before the impression is taken. In this way a perfect conducting metallic surface is obtained; that is, over the entire face of the letters, as well as over the spaces between the lines.

The sides of the letters do not, as a general thing, have a metallic conducting surface, inasmuch as the type, when the impression is taken, cut the leaf, and force a part of it down into the matrix, thus leaving the wax exposed on the sides of the letters. This cutting of the leaf, however, is rather an advantage, since such exposed parts of the wax are the very parts where a slow deposit is preferred, and which is effected by touching such parts over with plumbago. The advantages are these:—The moment that the mold or matrix is placed in the bath and the battery applied, the deposit of metal commences at once on the entire surface—the deposit being more rapid, however, on the face of the letters and on the spaces between the lines than on the sides of the letters; and this is just what is wanted, since it prevents, especially when the letters are small and deep, what is termed "bridging over" (hollow letters). By the use of silver leaf an electrotype may be produced with a bright silvered face—a feature of considerable importance in all cases where the plates are to be laid aside for future use, inasmuch as the face of the letters will not be so easily injured by long and continued exposure to air and moisture, as when of the usual copper face.

Electric Illumination.

Some attempts recently made at Paris towards illuminating the bottom beneath water, possess considerable interest in a scientific point of view. The electrodes of carbon were placed in a glass globe, being connected with one of Dubosq's regulators, which communicated with the battery by a copper wire covered with gutta percha. The globe submerged to a depth of fifteen feet, spread light over a circumference of thirty feet radius, and it remained constant for two hours, after which the carbon required replacing. Dubosq's arrangement is light, so that a submarine diver may carry it in his hand, and at the same time it is strong and well secured hermetically to resist a pressure of six hundred pounds of sea water. It consists of a cylinder of strong glass, secured to a brass foot, and surrounded with a gutta percha sack. The light passes out through a large plano-convex lens, with the convexity inward, the focus being so arranged that the rays escape nearly parallel. As the lamp is movable, the diver walks about with it, and places it in the proper relation to the point where he wishes to make any search; and as it is only necessary to bring the electrodes near one another to light it, the diver need only turn a small screw to continue the light for two hours, which is more than twice as long as he can remain at the bottom.

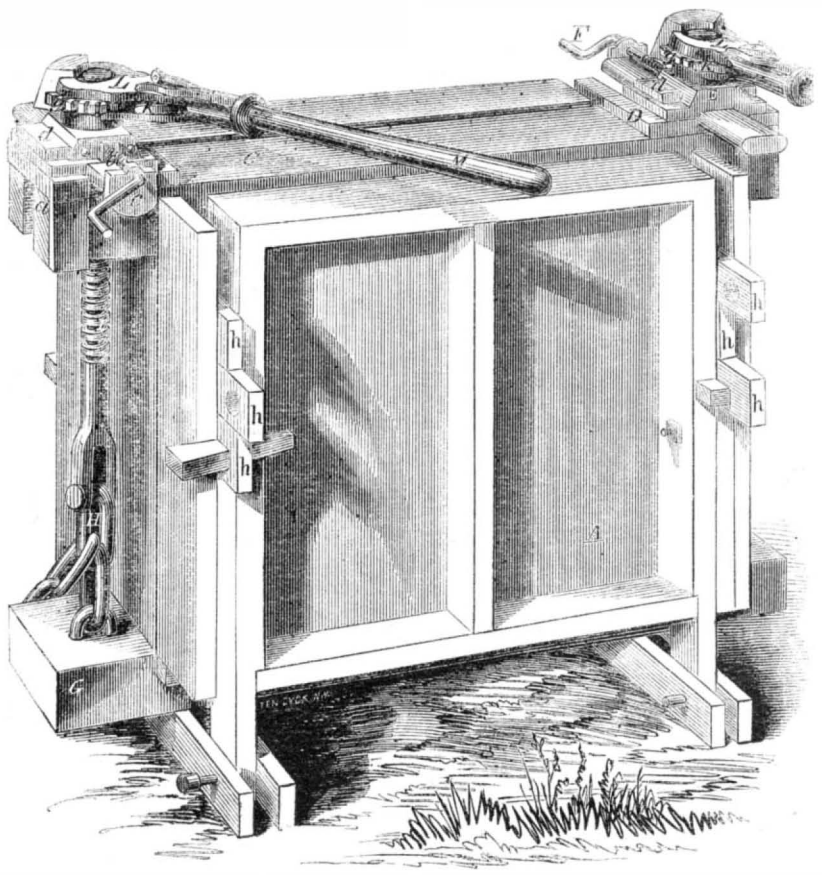
Improved Hop and Hay Press.

When, as often happens in presses, the follower in its descent takes an inclined position, the press will not of course operate with freedom, but in the subject of our illustration this difficulty is the subject of special attention, and has been successfully overcome.

The accompanying engraving is a perspective view of the hops, hay or cotton press, invented by Lincoln L. Cummings, of Munnsville, Madison county, N. Y., and patented by him June 15, 1858.

A represents a case or box of rectangular form, in which is fitted a follower or plunger, capable of working freely up and down. C is a bar that is placed on the top of the follower and longitudinally with it, the ends of the bar projecting beyond the ends of the follower, and having a T-shaped slot, *a*, made vertically in each end. On each end of the bar, C, a cap, D, is placed, having oblong slots made through them. These caps are provided at each end with a handle, *c*, and on each cap a plate, E is placed, passing between guides, *d*, which form part of the cap, D.

CUMMING'S HOP AND HAY PRESS.



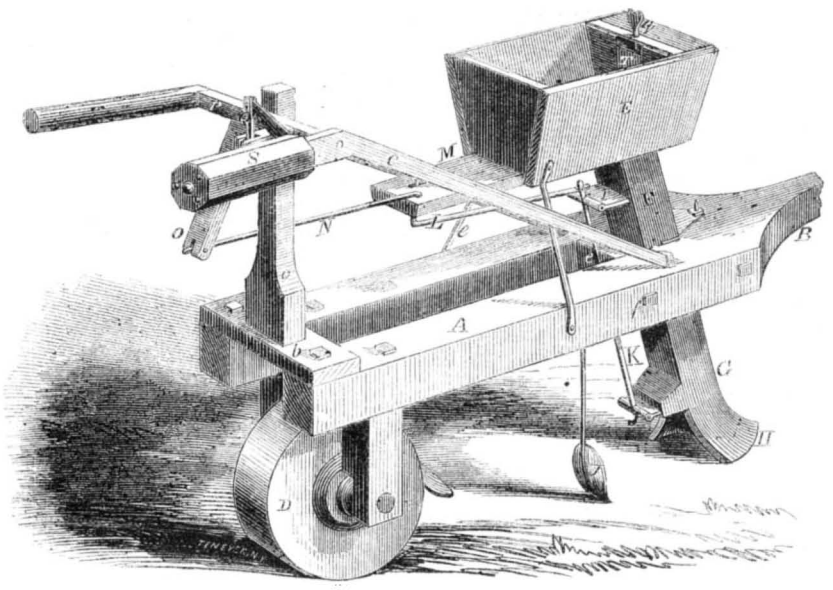
g, into which a spring pawl, K, catches. These pawls are fitted in sockets, L, that can move freely upon the nuts. In these sockets, L, hand levers, M, are placed, to operate the press.

Each side of the case or box, A, at its upper part is formed of a series of slats, *h*, which are placed one over the other between proper guides, so that they may be withdrawn as the follower descends, and the substance within the box is compressed.

The operation is as follows:—The follower is depressed upon the hops, hay or cotton by turning the hand levers, M, and consequently the nuts, so that as they are made to descend on the screws, I, they carry C and the follower with them. Should the follower become inclined, as the screws, I, have room to move in the T-shaped slot, *a*, so that it will operate the follower when inclined, and gradually make it level.

Many of these presses are in use for hop pressing, and give general satisfaction. They are for sale by the inventor and manufacturer, and any information concerning rights, &c., can be obtained by addressing him as above.

JONES' SEED PLANTER.



The object of the inventor of this seed planter—S. F. Jones, of St. Paul, Ind.—has been to furnish one in which the operator would have a full and perfect control over the distributing device, without regard to the draught movement of the machine, so that he could deposit the seed at the precise spot desired. That this object has been fully attained will be seen from the following description and accompanying engraving, which is a perspective view of this seed planter.

A is the frame composed of two parallel bars to the front ends of which the tongue, B, is secured. The back ends of the bars are connected by a bar, *b*, to the center of which an upright, *c*, is attached, which serves as a brace by means of a crossbar for the handles, C. To the back part of A, a wheel, D, is secured to support the back of the machine. E is a seed box, supported by bars, *e*, and a seed or discharging tube, F, the lower end of which is connected with a tube, G, secured to the underside of the frame, and having a furrow share, H, formed on its lower end. In the upper part of the tube, F, a slide, I, is placed, and a slide, J, is placed in the lower part of the tube, G. These slides work through the backs of the tubes, and are connected one to the upper, and the other to the lower end of rod, K, which is pivoted in the frame, A. To the upper end of the rod, K, a rod, L, is pivoted, the latter rod working in a guide in the bottom of the seed box. The outer end of the rod, L, is bent upwards, and is fitted in a groove in the slide, M, which works in the bottom of the seed box. N is a rod that is attached to M, and to the arm, O, of the crossbar, B, to which it is also attached another arm at right angles to the first. This is connected by the link, Q, which is also connected with a projection from the tube, S, that is fitted loosely upon one of the handles. The slide, M, has an oblong longitudinal slot made in it, and an adjustable plate or slide is fitted in this slot, the slide being adjusted by a set screw. By adjusting the plate the slot may be made of greater or less capacity as occasion may require. In the front end of the feed box, E, a vertical slide, T, is placed; this is provided with a brush or cut-off, and is regulated by the set screw, *q*. and this prevents the slot becoming piled up with seed and holding more than its proper quantity.

The operation of the machine is simple. The seed to be planted is pleced on the box, E, and the slot in M regulated to contain the proper quantity, then as the machine is drawn along the ground the operator with his right hand turns S half round, first one way and then the other, and by so doing moves the the slides, M I J, so that the seed can be stayed from falling, or permitted to fall in exactly the place required. The coverers, U, then throw soil over it, and D aids in pressing it lightly down.

A patent was granted for this invention June 22, 1858, and any further information can be obtained by addressing as above.

Vehicles of Intelligence.

Newspapers, like nations, have a historical existence. They "go to and fro" in the avenues of society and exert a powerful influence. Tribes and individuals far removed from hearing what is transpiring among men are always ignorant and degraded. That person who uses means to obtain a record of passing events always improves and advances in knowledge; the man who is dead to such influences is dead to his own best interests. Well did the old Greeks know the value of obtaining new information. When voyagers and travelers came to their ports and cities, they were taken to their public marts and requested to recite an account of what they had seen and heard abroad. The influence of this custom, before the art of printing was discovered, was like that of our modern newspaper; it tended to excite the people, and lead them to achieve reputation in all that was held worthy of being distinguished. The result was, they attained to the loftiest position in learning and the arts in those days, and in many things they are still our masters and instructors.

As attainments in the useful arts make men distinguished and nations great, we take occasion at the commencement of a new volume to solicit the favor of our constant readers in extending the circulation of a paper devoted to disseminating such information among the people as is useful and elevating. We urge our friends to give us their assistance in presenting the claims of the Scientific American to their acquaintances. We have no doubt but there are a great many mechanics, manufacturers, and others, who would become subscribers were our paper brought to their notice, and its character and advantages pointed out by those who know it well.

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Scientific American.

NEW YORK, SEPTEMBER 11, 1858.

The Great Celebration and the Atlantic Telegraph.

Our whole country, from its circumference to the center, has been electrified by the successful laying of the Atlantic Telegraph—that instantaneous highway of thought between the Old and New Worlds. It was an enterprise in regard to which all men wished for success and certainty. Great honor is due to those who devised and organized the project, and conducted its operations. The indomitable perseverance which they exhibited under so many difficulties and embarrassments of an adverse character, and their final triumph over all these, deserve the highest praise. The names of the most prominent of these parties—Field, Morse, Everett, Bright, Hudson, and others—have been held up before our people with marked respect. But perhaps the grandest feature in the whole affair was the spectacle of the two greatest nautical and Christain nations in the world employing their resources, and noblest vessels of war, in carrying out this gigantic scientific and commercial undertaking. We hope it may be an augury that war shall hereafter be unknown between them, and that in future their rivalry shall be "mutual co-operation to advance arts, commerce, and science."

Wednesday of last week was set apart as a day of public rejoicing in New York for the success attained in laying the cable, and we never witnessed on any previous occasion such a grand and universal demonstration. All classes, orders and societies turned out in procession to offer testimony to the feelings generally entertained towards those who were engaged in the accomplishment of the triumphant event. The officers of the frigate *Niagara* and those of the British war steamer *Gorgon* were received in style by the city authorities.

Te Deum was executed in Trinity Church in honor of the occasion. Titled lords, prelates and priests graced the spectacle. Magistrates from distant cities, and soldiers from Canada took part in the services. The crowning arch in the grand cavalcade, however, was the appearance of the industrial trades. Printers, coopers, millers, carpenters, machinists were there each exhibiting their varied arts as the columns moved onward towards the Crystal Palace, where, in the presence of ten thousand people, David Dudley Field, Esq., pronounced an oration. It was a most happy sight to see that venerable inventor, preacher and scholar, Dr. Nott, enjoying peaceful communication with his Grace the Archbishop Hughes, thus exhibiting a most agreeable illustration of the spirit of "peace on earth and good will among men," such as is the promise of good things to come.

In the evening, there was a brilliant illumination and a gorgeous torchlight procession by the firemen, and, on the whole, no such display has been witnessed here since the first Hollander set his foot on Manhattan Island. The circumstances undoubtedly warranted some such exhibition of public feeling, although its keen relish was somewhat blunted in the estimation of many good men when they remembered the fact that it was got up and managed by a mess of swindling officials, who will in some manner make the taxpayers smart for the cotton, paint, liquor and cigars supplied on the occasion at their expense. We can somehow overlook the heartless part of the exhibition, when we consider this ovation as an acknowledgement due to that power of science which has enabled man to hold converse with his fellow man through the depths of the great sea, through that path spoken of by Job, "which no fowl knoweth, and which the vulture's eye hath not seen; the lion's whelps have not trodden it, nor the fierce lion passed by it."

In regard to the operations of the enterprize, many superficial and incorrect statements have been put forth by various publications. No new invention of any great consequence was involved in laying the cable. Submarine cables had been laid before, but they were on a much smaller scale. The achievement derives its importance from its greatness, as being the most gigantic effort ever made to extend telegraphic communications between distant continents. Whether the Atlantic Cable will ever realize all that has been expected from it by sanguine persons remains to be demonstrated—thus far it has not. Its operations have, as yet, been of a very puzzling and tedious character. On page 184, Vol. XII., Scientific American, the nature of the submarine cable as an electrical conductor was explained. It was there stated to be a vast Leyden jar, and messages could not but travel very slow in it—requiring about six seconds for each signal, and therefore incapable of transmitting more than about half a column of news in twenty-four hours. As yet it has not come up to this figure; and it has baffled all efforts to work successfully any of our common telegraphic instruments. The messages sent have been by slow "time signals," and many very incorrect and contradictory statements have been put forth by those interested, which are calculated to mislead the public. Thus in the published statement of G. Saward, manager of the line in England, he asserts that the Queen's message to the President, consisting of ninety-nine words, was received in Newfoundland in sixty-seven seconds; whereas we know, by the published statement of M. de Santy, manager at Newfoundland, it took about twenty-four hours. All the messages—and they are but few in number—which have been sent, have required a very long time in their transmission. With the very best known instruments messages will be very slow, and unless some new discovery is made to remove existing obstacles, the Atlantic Telegraph will be of very little general benefit to the commercial people of the two continents. It will undoubtedly be a great national benefit for special purposes, but that will not meet the wants of the public. The instruments for operating the cable ought to have been adjusted and in working order long ago. That this has not been done affords reasonable grounds for concluding that greater difficulties have been experienced than were expected.

Relation of Masters and Apprentices.

We have often thought that if masters properly comprehended the relation they sustain to their apprentices and employees, their pecuniary interest would not only be greatly enhanced, but that a positive good would be rendered to every branch of industry in which they are engaged, as well through a more harmonious concert of action as a superior social elevation given to the worthy class under them. To our view, this relation is somewhat analogous to that existing between parents and children, so far as the development of their minds and the instilment of sound principles of morality and industry, the encouragement of skill in manipulation, and the attainment of knowledge are concerned. We believe the observation of a celebrated master, that no one is born without capacity for some branch of industry, is a just one, and that where stupidity exists it is nothing else but neglect of proper discipline and education in the youth of the person thus unfortunately deficient. To establish this fact it needs no fresh arguments of ours to show how extremely ductile, how capable of government and restraint, and how susceptible of instruction human nature is, when approached in the proper spirit of kindness, dignity and respect, which stimulates zeal and ambition, and produces a corresponding return.

The first duty of a master should be to present in himself an example for imitation in the elements of industry, morality, system, and the other attributes which constitute a superior mechanic or workman. There are many apprentices who have so much of the spirit of self-reliance and genius that this example is not essentially necessary; but if we pursue the reflection, and for the certainty of the rule consider (what no man can fail to observe) the effect the characters of others of a superior rank have upon those immediately connected with them, it will be obvious to all that the master, in a great measure, impresses the inferior with the prominent traits of his character. They should, moreover, observe and study the dispositions and minds of their apprentices, with a view of conciliating their regard and confidence, and through this means to establish a free and familiar intercourse, and render the task of instruction and development more simple and easy. As the apprentices advance in knowledge and skill, suitable evidences of appreciation and encouragement should be given them. This will stimulate their ambition and exertion, and create among them a worthy spirit of emulation.

Where the character of an apprentice is such as to require a tight rein upon his actions, and the deprivation of privileges, and other suitable punishments for idleness and misconduct, care should be observed that these curbs and punishments do not descend into such acts of tyranny as will destroy the spirit and ambition of the youth, and render him obstinate, unruly, and beyond all future influences of excellence and good. Besides a thorough instruction in his trade or profession, and a sound and healthy education to otherwise render him fit for his social position in life, it should be the aim of a master to instil into his pupil all the scientific and other knowledge possible, even should such knowledge have no direct bearing upon the business or trade in which he is engaged. Such acts of interest, kindness, and confidence as these, and others of a corresponding character, cannot fail to produce the most marked beneficial results upon the interests of the master, and the happiness and condition of the grateful apprentice.

The Yellow Fever.

Some time ago we remonstrated strongly against the course of Dr. Thompson and the Board of Health of this city, for the careless manner in which infected ships were treated by them, and this journal was the first to call the public attention to their official stupidity in allowing the U. S. ship *Susquehanna* to remain for three months in the cool weather, without attempting to do anything for her restoration to usefulness, and then when the thermometer got to "fever heat," they busily stirred themselves to get her disinfected, by risking the lives of stevedores and others, in a reckless and unnecessary manner. Since that time, many other infected ships have been treated in the same way, and at this moment there are too many opposite the Quarantine station, which is only six miles from the city. The consequence of this careless conduct is that yellow fever has broken out in three distinct parts of Staten Island.

Since writing the above, the whole of the Quarantine buildings have been burned to the ground by a mob, and the sick left uncared for. The doctors deserve the credit of having stuck to their posts like brave men during the whole of the conflagration. We hope that the perpetrators of the wrong may be apprehended and punished, for it is no way to redress one evil to allow a ruffianly gang to take the law into their own hands.

Recovery of Electric Cables.—The two electric cables which Mr. Brett endeavored in vain, about two years ago, to lay down between Spartiventi, Borea and Gallita, have, according to *Galignani's Messenger*, been discovered, and taken on board an English steamer, which arrived at Elba a few weeks ago. From a casual observation, it appeared to be but slightly affected by abrasion and other causes to which it was subjected during its long residence in the mystic deep.

The Progress of Invention.

It is with pleasure that we commence this new volume with such a fine list of patents, issued during the past week; and we can congratulate the inventors of the country that gradually their noble mission is becoming appreciated, as is evidenced by the tribute now so generally bestowed upon those men of genius who have been engaged in laying the Ocean Cable. Perhaps no better evidence of the increasing interest felt in invention and the growing genius of our country can be found in the records of the Patent Office. We can state two facts which will show the rapid progress that has been made. During the year encompassed by Vol. XII of the Scientific American, 426 patents were issued to persons who had made their applications through our Agency, while in the year just closed, embraced within Vol. XIII, 888 patents were issued to our clients!

Making a selection from the List of Claims published in this first number of Vol. XIV., we find Agriculture well represented, and we will proceed to give some idea of the new inventions in this class. In fact, the cultivation of the earth, and the production of machines which facilitate the tilling of the soil, and the gathering of its fruits, are the subjects which, more than any other, engage the inventor's attention.

John D. Tiffts, of Cuyahoga Falls, Ohio, has invented an improvement in separators or winnowers. It consists in having the discharge orifice of the fan case provided with a segment shell, by which the size of the orifice may be regulated as occasion may require, and using in connection with the slide an adjustable blast director, so that the device is well adapted to winnow large or small grain.

L. H. Parson and G. Houston, of Middletown, N. Y., have invented an improvement in the wire-toothed horse rake. They employ supplemental springs, arranged and connected with the teeth, so that while the teeth are properly braced and stayed, they have at the same time the requisite degree of elasticity.

Next comes an improved clearing device, to be applied to seed drills, invented by O. H. S. Brumfield, of Centerville, Ind. The invention consists in having a series of hooks or curved teeth attached to a rod, the ends of which are fitted in horizontal guides, and connected to pitmen, which are attached to cranks, these parts being so arranged as to clear all weeds and other obstructions from the ground in advance of the drill, and thus prevent its clogging.

Messrs. Conklin & Newton, of Stirling, Ill., have produced a novel seed-distributing device, especially applicable to broadcast seed planters.

J. B. McCormick, of Versailles, Ky., and W. R. Baker, of Boston, Mass., have invented an improvement in seeding machines, which relates to a novel means employed for forming the drills or furrows, and dropping the seed into the ground.

The next invention, that of E. L. Lyon, of East Randolph, N. Y., relates to an improvement in that class of seeding machines in which the seed-distributing devices are attached to the wheels, and are operated by the rotation of the wheels as the machine is drawn along. The invention consists in the peculiar construction and arrangement of the distributing devices as applied to the wheels, so that seed may be planted evenly either in check rows or in parallel drills.

Joseph D. Smith, of Lancaster, Ohio, has also invented a machine for planting maize, or corn, and other seed, in check rows. The invention consists in a peculiar seed-distributing device, and also in a novel device for forming the necessary furrows to receive the seed also in a peculiar arrangement of the framing, whereby the device is allowed to conform to the inequalities of the ground, and the seed-distributing portion elevated free from the ground, when desired, or when mov-

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ing from place to place, or in turning at the ends of rows, &c.

And last, but not least, W. A. Mahaffy, of Carimona, Minn., has made an improvement in the seed-distributing device of seeding machines, whereby the seed is discharged in measured quantities from the seed box, and conveyed from thence to the conveying tubes at the bottom of which the furrow teeth are formed, the seed being deposited in the furrows in quantities precisely the same as they are discharged from the seed box.

In STEAM apparatus and appliances we notice the steam cock invented by Albert Fuller, of Cincinnati, Ohio, which is composed of a plug of rubber or other suitable elastic material, placed on the valve stem, and fitted between a metallic shield on one side and a metallic cap on the other, the cap having a nut bearing against it. By these means due provision is made to compensate for the wearing of the plug, and the casualty of the forcing of the plug through the valve seat by the pressure of the steam effectually guarded against.

J. H. Winn, of Portage, Wis., has invented an improved apparatus constituting a combined safety valve and steam pressure gage, which consists in a very simple method of applying and arranging one or more weighted pendulous rods, and an index and dial in combination with a piston valve and suitable arrangement of steam passages, whereby the escape of steam from a boiler, as soon as it arrives at any desired pressure, is provided for, and any pressure of steam below that at which it is desired to escape, is correctly indicated by the index on the dial.

Travelers, emigrants, and in fact every one who ever has had to travel in a railway train by night, and who knows the uncomfortableness of a night journey—how the cars rocked, but allowed no sleep—how you tried to make yourself comfortable, and could not—all who have experienced the inconvenience will thank J. C. Dewitt, of West Bloomfield, N. J., K. Freeman, of Fond du Lac, Wis., and W. Painter, of Wilmington, Del., because each of these inventors has invented a method of arranging seats, and other parts of railway cars, so that without taking away any often necessary room in daytime, they can in a few moments be made into sleeping cars, giving a good bed or berth to as many as were seated. We cannot explain them without engravings, but each has some special feature to commend it to a favorable reception by the railroad companies and traveling public.

Among those inventions which may be said to promote DOMESTIC ECONOMY we see many useful improvements. First we may notice the lamp invented by James P. and Ellen Kenyon, of Brooklyn, N. Y. It is especially adapted for burning coal oils or other hydrocarbons, and as these contain variable quantities (according to their purity) of carbon and hydrogen, they require a greater or less supply of air to the flame. To obtain this exact quantity with little trouble, two wicks in separate collapsible wick tubes are employed, and placed at such an angle that their flames meet and join together, while between them a current of air is supplied to support combustion. Outside these wick tubes is a cap or cover, by raising which the wick tubes separate, and consequently more air passes up to feed the flame, and by depressing the cap they are brought closer together, and less air passes up between them. By lighting the lamp and moving this cap up and down, any one can regulate the amount of air which will fully consume the particular quality of oil then in the lamp, and consequently there is no smoke, and no necessity for a chimney, or any artificial draft creator.

G. W. Smith, of Aurora, Ind., has invented a foot-warmer for forges, which is a chamber or box placed in the ground, or below the flooring adjoining the forge, and the place where the workman usually stands. This box is supplied with steam generated in a water tweer, if such tweer be used, or if not, a tank is inserted in the wall of the forge, so that steam may be generated in it, and supplied to the foot-warmer.

J. H. Roome, of New York, has made an improvement in tailors' and other shears, by forming the handle and upper cutting blade of the shears in two parts, and so connecting the former to the body or shank of the lower cutting blade and to the upper one as to enable the leverage exerted by the thumb to be gradually increased with the closing of the blades.

A. W. Hale, of New Britain, Conn., has invented an improvement in portable pressure bells for house use. It consists in the employment of a vertical sliding arbor, which works through the center of the shell of the bell, said arbor having a pin projecting horizontally from it, and also having a spiral spring placed around it, the above parts being used in connection with a spring or elastic tongue, provided with a projecting plate, so that a very simple device is obtained for sounding the bell by simply depressing the arbor.

A simple, cheap, and efficient coffee-roaster has been invented by Samuel Tower, of Grand Rapids, Mich. It is simply two hollow hemispheres of metal, which, fitting together, form a spheroidal or spherical chamber, in which the coffee is placed to be roasted. The axle on which it is rotated forms a lock to keep the two parts together, and it is equally applicable for household or manufacturers use.

The ladies have lately given much employment to inventive genius, and the ingenuity of many inventors has expanded in direct proportion with the size of those much abused but graceful additions to the female form—the hoops. A. Smart, of New York, has invented an improved metallic clasp for securing the hoops to the tapes of skeleton skirts. This clasp is a small plate of metal secured to the hoop, and the tape passes through slits in the back, and is there held secure. It is simple and convenient, doing away with all knots, and other annoyances.

A. G. Davis, of Watertown, Conn., has invented a new parasol and sun umbrella. The invention consists in having the handle of the parasol, sun shade, or sun umbrella formed of two parts, one part being fitted into and allowed to slide in and out from the other, and used in connection with a stop and pressure bar, slide ferrule, and hub, the whole being arranged so that the handle may be extended or lengthened as the implement is opened, and shortened as it is closed or folded.

J. T. B. Rogers, of New York (assignor to G. B. Sloat, of Philadelphia, Pa.), has invented a new device for producing tension on the needle thread of sewing machines. The invention consists of two conical surfaces, one of which is concave, and forms a cap to the other, which is convex, and an adjusting screw and spring, the whole being combined to produce upon the thread passing between the cones, friction, which is sufficiently variable to produce a degree of tension on the thread that can be regulated with extreme delicacy.

John Agnew, of Columbia, S. C., has invented an improved coupling for securing together the ends of metal bale hoops, which consists in having a small metal casting with a longitudinal slit in it, of double taper form, and having the ends of the hoops doubled, or bent over in loop form, so that the same may bind or become wedged in the casting, forming a perfect fastening.

William Todd, of Cherryfield, Me., has invented a combination of rollers, placed at such an obtuse angle with each other, and a tapering roller placed beside them, so that pieces of lumber may be rolled on to them and guided to the tapering roller without regard to the position of the log. It is intended to facilitate the piling, removal or stowage of logs or lumber.

Issachar A. Hansell, of Springfield, Ill., has produced a drawing-board for perspective drawing. It has an adjustable curved strip fitted in each side of the board, the outer edges of the strips being curved parts and forming guides for the square, the curves being struck or formed from the vanishing point or points of distance of the object to be drawn, and determining the proper angle at any point of their curved surface for the vanishing lines. The board has also straight guides at each side in order that the square, when required, may be adjusted parallel with the base of the board.

Jeremiah Howard, of New York, has made an improvement in mills for crushing sugar-cane, which consists in applying, by suitable means, hydraulic pressure to the lower roller of a crushing mill, so that the rollers will be allowed to yield or give, and the space between them and the upper rollers be regulated according to the work to be performed.

An invention which has long been wanted, is supplied by A. Pearsall, of Nashville, Tenn., who employs an inclined mandrel, clamps and welding roller, arranged so that in the machine, bellows' pipes and nozzles may be closed and welded in a very expeditious and perfect manner.

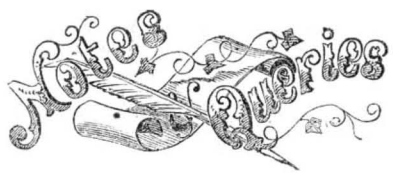
The carding machine has received some improvement from C. E. Price and J. Haythorn, of Thompsonville, Conn. The invention consists in the employment of a revolving spirally-grooved or threaded cylinder, applied below the comb which removes the fleece from the doffer, and near to and parallel with the doffer, for the purpose of receiving the fleece as it is struck from the doffer by the comb, and conveying the same away by means of its revolution, in a direction parallel with the axis of the doffer, through a tube arranged at one side of the machine. By this contrivance they are enabled to produce a better quality of yarn from stock of given quality, and make very little waste.

In making carriages more comfortable, and providing for the safety of persons who take the easy exercise of carriage riding, we notice two inventions. The first is a carriage bow prop invented by D. B. Wright and L. Sawyer, of Amesburg, Mass., the object of which is to obviate the difficulty attending the present mode of attaching props to carriage bows. By the present mode of attachment the leather or covering of the top is not allowed to work or move around the prop, and consequently it is liable to wrinkle, as the braces or rods which the props support are moved, and the top raised and lowered. The usual strain, also, to which the leather is subjected, is avoided, and the improvement makes a better finish, adding considerably to the appearance of calash tops, and also allows mechanics better facilities for finishing or "binding off" the top.

John C. Dewitt, of West Bloomfield, N. J., has invented a new buckle for securing harness traces and hame tugs, the object of which is to obtain a buckle or fastening for securing the traces of harnesses to their hame tugs without injuring the traces as is the case with the ordinary buckle, and at the same time to obtain also a fastening that will admit of a ready adjustment and form a sure connection.

Here we must stop, and yet there are many other valuable inventions in this week's List of Claims which we must, from want of space, omit to notice, but we have at any rate shown a sufficient number to demonstrate the wide range that invention takes, and to prove the progress of mechanical science.

PUBLIC FOUNTAINS.—The citizens of Birmingham, Eng., not having spent all the money which they appropriated for the reception of Queen Victoria in their city, have devoted the surplus to the erection of public fountains. Why cannot all our cities imitate Philadelphia, Liverpool, Paris and other cities, in this, and provide plenty of fountains, to gush forth cooling water, to cheer and improve the thirsty, weary inhabitants? We are forcibly impressed with the statement that the money appropriated was not all expended. No such libel as this has ever been charged against the managers of similar affairs in this city.



*** PERSONS who write to us, expecting replies through this column, and those who may desire to make contributions to it of brief interesting facts, must always observe the strict rule, viz., to furnish their names, otherwise we cannot place confidence in their communications.

MULTUM IN PARVO—In 1630, David Ramseye, the King's Poet, took out a patent in England, No. 53, embracing the following points:—First, To multiply and make saltpetre in an open field, in four acres of ground, sufficient to serve in his Majesty's dominions. Second, To raise water from low pits by fire. Third, To make any sorts of mills to go on standing water by continual motion, without the help of winds, weight or horse. Fourth. To make all sorts of tapestry without any weaving loom or way ever yet in use in this kingdom. Fifth, To make boats, ships and barges go against wind and tide. Sixth, To make the earth fertile more than usual. Seventh, To raise water in a new way. Eighth, To make hard from soft and copper to be tough and soft, and to make yellow wax white very speedily.

W. W. H., of Texas.—The conical ball, with the charge in a hollow at the rear, as described in the New Orleans *Delta* as a Russian improvement, is not new. Such balls have been used in the United States.

TUBULAR AIR RAILWAY.—S. T., of Philadelphia, inquires: "Was there not a patent issued a few years since for the transmission of mails through pipes by atmospheric pressure? Has it been abandoned, or is the inventor still sanguine of success?" The idea referred to for carrying mails is old, but a patent was issued a few years since for an improved mode of accomplishing the object. The invention was illustrated and described on page 265, Vol. VIII, SCI. AM. We believe the inventor—I. S. Richardson, of Boston,—is still sanguine of success.

ALL ABOUT A SNUFF BOX.—The original inventor of the Ayreshire snuff boxes, so well-known in Great Britain, was a cripple, hardly possessing the power of locomotion. They are made of wood, admirably joined, painted and varnished, and were first manufactured about sixty years since. Instead of taking out a patent, the inventor intrusted his secret to a joiner in the village, who in a few years amassed a great fortune, while the other died as he had lived, in the greatest poverty. Speaking of snuff-boxes, snuff-taking took its rise in England in 1702.

CURIOSITY.—The popular belief that young birds are assisted in escaping from the shell by the parent, is refuted by a talented author. The beak of the chicken is tipped with a bony point; this is protruded through the shell, and afterwards drops off. By means of its feet as levers, the animal turns itself little by little, till by degrees the whole top of the large end of the egg is cut cleanly off, and thus the prisoner is set free.

J. C. S., of Mass.—Your communication of the 28th ult. is placed among our private files. If you go on at this rate there will soon be nothing remaining undiscovered in the projectiles for efficient manslaughter.

T. M., of Va.—Messrs. Phelps, Dodge & Co., of this city, are extensive importers and dealers in tin plate. This firm is very reliable, and you can safely remit money to them.

A. H. G., of Vt.—If a straw cutter, a washing machine, a saw, a coffee mill, &c., are all arranged to be operated by a single shaft, such combination could not be patented. Each of these machines would fulfil its appropriate function independently of the other, therefore there is no proper combination. To make the matter plain, the coffee mill could do its grinding without the aid of the washing machines.

TELEGRAPHS.—A Philadelphia correspondent inquires if Franklin did not invent the first electric telegraph, "he having sent an electric current through the Schuylkill river, and made signals in 1748, thus demonstrating that electric messages could be sent great distances nearly a hundred years before Professor Morse invented his telegraph (1835)." Franklin accomplished the result mentioned by our correspondent, but a like effect had been produced in 1729 by Messrs. Wheeler and Grey, in England. The electricity which they employed was frictional, and could not be successfully applied to public telegraphing. Voltaic electricity was not then discovered. The application of electricity to telegraphing was essayed by various persons long before Professor Morse invented his telegraph; but his invention is entirely different from all his predecessors. He did for the telegraph what Watt did for the steam engine, and he put up the first really successful line of public telegraph (in 1844) in our country.

CLOCKS.—A correspondent in Cincinnati inquires: "where were clocks first made in America; and how have Yankee clocks gained such a world-wide reputation?" We cannot answer the first question positively, but clocks were manufactured at a very early date in Hartford and Litchfield, Conn. A patent was granted to Benjamin Hanks, of Litchfield, in 1783, for a self-winding clock, and at that period the wooden time-pieces of New England had acquired a high character. Their works were made of well-seasoned wood, carefully finished, and they kept accurate time. At an early date Philadelphia had also acquired a high character for clock-making; and some years before the Revolution, the celebrated David Rittenhouse, of that city, made calendar clocks which gained him the praise of the most skillful mechanicians in Europe.

C. C., of Texas.—We do not profess the practice of physic, nor do we take diagnosis of diseases—these offices belong to the professional physician; but we can tell you how to prepare a liniment that may be useful in removing your rheumatic pains:—Take one pint of brandy (we don't mean the stuff commonly sold as

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brandy), one ounce of gum camphor, one ounce of saltpeter, and one pint beef's gall, thoroughly mixed, and briskly applied to the surface either with the hand or with a soft flannel. It may do you no good, but it has helped some of our friends very much.

T. W. H., of Ill.—In the case you mention of lightning leaving the rod and passing from the tin roof to the bell wires of the house, we are inclined to think that the rod was imperfect. Our reason for supposing that lightning rods should not be disconnected from roofs was, that should the flash strike the roof, the rod would conduct it away; and in our opinion it would never leave a good conducting rod to go to a painted roof.

INVENTOR.—You had better have put your case into our hands at first. Depend upon it, no patent agency can be successful without an efficient branch at Washington. We do not, under any circumstances, trust any of our cases in the hands of other agents. Our office in Washington is under the care of the same firm as the one in this city, therefore no outside examination or exposure is possible. We would caution all inventors to beware not to allow their cases to pass through too many hands.

A. S. M., of Ill.—The patent law does not prescribe any penalty for selling an unpatented article for a patented one, except where such article is stamped or otherwise marked with the word "patent," or like device, with a view of imitating the mark or stamp of an existing patent or of a patentee, or with a view of deceiving the public, in which case the offending party is liable to a penalty of $100—one-half to go to the party who shall sue for the same.

R. L. S., of N. Y.—We do not know of any machine in use for cutting up rough tallow. You had better explain to us more fully what you want, and we will see what can be done for you.

C. C., of N. Y.—You could scarcely trump up an older contrivance for a water wheel than to employ a series of buckets upon an endless chain. It won't do. You have now tried twice without success, but do not be discouraged. You have some inventive genius, but it needs nourishment.

R. W., of N. Y.—Address a letter to the care of the party whose address we last gave you.

G. H., of Va.—You had better prepare and send us an advertisement, and no doubt you will have your wants supplied. We are surprised to learn that the State of Virginia has no State Chemist.

A FARM of eight hundred acres was sold in England the other day for the enormous sum of two hundred dollars per acre.

THE SLATE TRADE.—From one district in North Wales 120,000 tuns of slate are annually exported.

THE bellows of the organ in Carlisle (Eng.) Cathedral is blown by water power.

G. A. G., of Ala.—A disinfectant used in the British navy is a highly concentrated solution of chloride of zinc, which is certainly preferable to chloride of lime, where the corrosive power or strong odor of the latter is objectionable, as in the sick chamber or close ship.

S. W. Y., of R. I.—Your sketch represents a pneumatic telegraph composed of a long line tube furnished with a glass tube at each end, in which is a plunger to force in the air and operate signals, by mercury rising and falling to certain hights, indicated by letters of the alphabet. It is wholly unsuited for practical purposes, and there is little that is new in its design. A hydraulic telegraph on the same principle was proposed to us several years since.

H. L., of Ohio.—Of the list of patents that appear in this paper, thirty-five were granted to inventors whose applications were presented through the Scientific American Patent Agency. It is a fact worthy of note that no similar agency in the world has ever taken the same number of patents in one week. We have a strong force, and are able to bestow the utmost care upon all our cases. You can depend upon it that what we cannot obtain for you is scarcely worth undertaking to get elsewhere.

HUMAN HAIR.—There are two hundred thousand lbs. weight of women's hair annually sold in France, and the price paid for it is usually six cents an ounce.

OTTAR OF ROSE.—One hundred thousand roses are required to give a yield of 188 grains of ottar, or oil of roses.

W. J. S., of N. Y.—Walker's arrangement for conducting lightning from telegraph lines, to prevent overcharges from destroying the magnets, &c., is described on page 191 of "Turnbull on the Electric Telegraph."

M. F., of Boston.—We have received your first article; it is excellent. Be pleased to furnish the others as soon as possible, so what we may have them all on hand when we commence to publish.

H. C., of N. J.—The "band and pulley brake" for stopping railroad trains was invented nearly twenty years ago by George S. Gregg, of Roxbury, Mass. It was first applied by the Boston and Worcester Railroad.

ENGINEER.—The first cost of English railroads is much greater than in this country, but this difference is more than made by the greater economy of the English lines. In the consumption of fuel alone the difference in favor of the English roads is about sixty per cent. The average cost of fuel on our lines is $18,000,000, on the English, $7,560,000. The difference in annual expense is $71,000,000 in favor of English lines.

C. G., of N. Y., asks if we can explain the reason "why a person is taller in the morning than at night." This difference is said to be about half an inch, and is owing to the relaxation of the cartilages.

G. A., of Mass.—You are wrong. The steamer Lexington was burned on the evening of the 13th of January, 1840. Some cotton in bales was stored around the smoke pipe, and it took fire, and although within sight of land, all but four persons on board perished. The number of persons lost was nearly 150.

S. W. B., of N. Y.—The method exhibited in your sketch of adjusting the beam of a plow by a transverse slot and bolt in the standard is not new. Brown's polychromatic printing press we consider a superior invention; but you must judge for yourself as to the propriety of engaging in its manufacture. We cannot decide such questions.

Money received at the Scientific American Office on account of Patent Office business, for the week ending Saturday, September 4, 1858:—

C. P. S., of S. C., $25; E. A. G., of Pa., $30; G. M., of Mass., $25; M. & E., of Ill., $30; W. W., of Del., $55; A. E. & S. N. McG., of Minn., $12; W. H. B., of N. Y., $30; W. B. C., of Pa., $35; A. H. W., of N. Y., $25; W. & J., of Conn., $25; J. B. Jr., of Mass., $25; M. & F., of Mass., $30; A. P., of Mass., $25; A. McV., of Ohio, $30; H. & P., of N. Y., $30; E. S., of Vt., $50; J. & R. McM., of N. Y., $25; J. L. B., of N. Y., $25; P. M., of Mich., $25; G. S., of Mo., $35; C. L. R., of Pa., $32; W. H., of N. Y., $25; W. H., of Pa., $30; J. R. H., of Conn., $30; A. B., of Vt., $30; J. H. C., of N. Y., $100; H. C. S., of Ohio, $10; J. F. B., of Ill., $25; G. B., of Mo., $30; S. B. R., of Wis., $25; P. W. G. & Co., of Ill., $50; I. W. H., of N. Y., $50; W. M., of N. Y., $25; H. N. B., of N. Y., $12; J. H. L., of N. Y., $57; K. & R., of Mass., $30; H. & M., of N. Y., $30; W. G., of N. Y., $250; C. J. C. P., of Iowa, $60; W. T. F., of Tenn., $44; J. M., of Wis., $55; W. S., of Pa., $60; S. S. S., of Pa., $30; J. E. R., of Ill., $30; H. E., of Iowa, $30; T. R., of N. Y., $30; D. W. H., of Mo., $60; J. A. W., of ——, $30; H. E., of N. J., $30; W. S. W., of L. I., $12; J. P. B., of N. Y., $25.

Specifications and drawings belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday, September 4, 1858:—

P. M., of Mich.; W. M., of N. Y.; E. U. B., of Wis.; G. F. & M. J., of N. Y.; A. E. & S. N. McG., of Minn.; W. H., of N. Y.; J. R., of Conn.; C. L. R., of Pa.; J. F. B., of Ill.; W. & J., of Conn.; A. P., of Mass.; J. L. B., of N. Y.; C. P. P., of S. C.; A. W. D., of Me.; H. H., of Ind.; W. T. F., of Tenn.; S. C. H., of N. Y.; W. S. W., of N. Y.; T. E. McN., of Pa.; G. & H., of Ill.; J. B. Jr., of Mass.; H. N. B., of N. Y.; J. C., of Wis.; J. P. B., of N. Y.; R. B. L., of N. Y.; I. B., of Texas; D. R. K., of Conn.; C. B. C., of R. I.; B. T. S., of Ill.; G. M., of Mass.; A. H. W., of N. Y.; G. F. & C., of Ill.; I. P. E., of Ind.; J. & R. McM., of N. Y.; A. N. McE., of Mo. Total, 35 cases.

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Consultation may be had with the firm, between nine and four o'clock, daily, at their principal office, 128 Fulton street, New York. We established, over a year ago, a Branch Office in the City of Washington, on the corner of F and Seventh streets, opposite the United States Patent Office. This office is under the general superintendence of one of the firm, and is in daily communication with the Principal Office in New York, and personal attention will be given at the Patent Office to all such cases as may require it. Inventors and others who may visit Washington, having business at the Patent Office, are cordially invited to call at our office.

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TO CLOSE OUT THE EDITION I WILL send the Mechanics' Guide (contains tables, rules, recipes, hints, &c., useful to mechanics, farmers, and others,) to any address, post paid, on receipt of three red stamps. J. PHIN, Rochester, N. Y, 1*

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N. B.—For low falls of one, two, or three feet, also for any fall, it will surpass all others. 1 1*

THIRTIETH ANNUAL FAIR OF THE AMERICAN INSTITUTE at the Crystal Palace, in the city of New York.—The Managers announce that the Exhibition will be opened on Wednesday, the 15th day of September next. The Palace will be prepared for the reception of goods on and after the 7th of Sept. Machinery and heavy articles will be received and stored after the 1st of July. This exhibition is intended to embrace Machinery and New Inventions, Manufactures of all descriptions, and Agricultural and Horticultural Productions of every kind. Gold, silver and bronze medals, silver cups, and diplomas will be awarded on the report of competent and impartial judges. The Managers would impress upon exhibitors the importance of making early application for the space they wish to occupy. Circulars containing full particulars can be had by applying to WM. B. LEONARD, Corresponding Secretary of the Institute, No. 351 Broadway, New York, to whom all communications should be addressed. By order of the Managers,
F. W. GEISSENHAINER, JR., Chairman.
JOHN W. CHAMBERS, Secretary. 1 1

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GREAT FAIR OF THE AMERICAN INSTITUTE at the Crystal Palace.—Articles will be received and located on and after Tuesday, September 7th. Entrance on Fortieth st. Exhibitors are requested to send their articles without delay.
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Science and Art.

Extraction of Silver from Copper Ores.

Kocubly, in speaking of the extraction of silver from copper ores, at the Malden Smelting Works, near Freiberg, says that the process observed is an economical and efficient one. The copper stone, containing from 50 to 70 per cent of copper, 8 to 15 per cent of lead, and 0·20 to 0·45 per cent of silver, is stamped, sifted, and roasted in a double furnace with two hearths, one above the other, first in the upper hearth and then in the lower one. During the first stage of the roasting, sulphides of copper are converted into neutral and basic sulphates, which are again decomposed during the second stage of the roasting, giving off sulphuric and sulphurous acids, and being for the most part converted into oxyd of copper, while sulphate of silver and a small portion only of the sulphate of copper remains undecomposed. The roasted mass is again stamped and ground, and mixed with from 4 to 8 per cent of chloride of sodium, and again roasted. By this means the copper is converted into chloride, and chlorine compounds of the other metals are also produced. After this roasting is finished the mass is extracted in wooden tubs, under hydrostatic pressure. At first, lukewarm water is used for this purpose, and when the greater part of sulphate of soda and other salts have been removed a solution of chloride of sodium is substituted. This dissolves the chloride of silver into precipitating tanks containing copper, which is dissolved while the silver is precipitated.

Lockjaw in Horses.

This is a terrible malady to which horses are sometimes subject, and it is generally fatal owing to the want of skill on the part of veterinary physicians. The method pursued by them in its treatment has been blistering, clystering, &c., which rather aggravates than relieves the spasms that usually attend it. Death generally ensued by this practice, and the disease has been held to be almost incurable. In a late number of the Edinburgh *Veterinary Review*, a new system of managing lockjaw is described, and nearly all the cases in which it has been applied, have resulted favorably. The plan consists of a hot water packing similar to that pursued in the "water cure" for the *genus homo*.

As soon as the horse is observed to be affected with tetanus, it is wrapt from head to tail in four or five pairs of blankets, which have been wrung out of warm water at a temperature of 200° Fah. The animal is then allowed perfect rest and quietness for about two hours, when warm water of the above temperature is poured along its back outside of the blankets, and another like period of repose allowed, and so on until a cure is effected. A thin gruel of flour, oat, or Indian corn meal is given, when the jaws of the animal are capable of being opened.

As horses are liable to take lockjaw from pricks in the feet caused by careless or unskillful blacksmiths while shoeing them, this simple method of managing the disease can be applied by any person, and is designed, we think, to be of considerable benefit.

Improved Boiler Furnace.

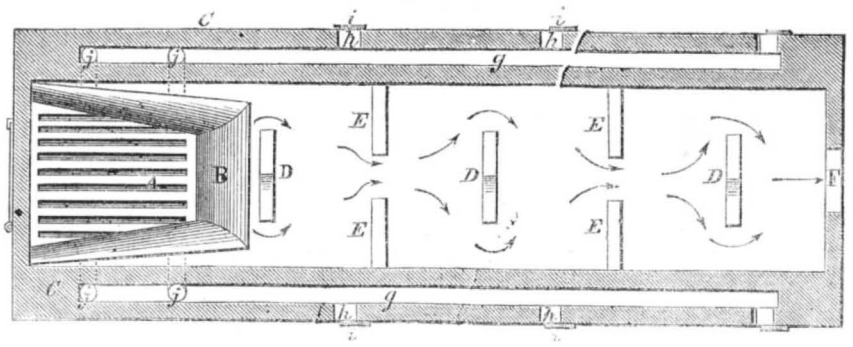
This is an arrangement of fire bridges in the bed of a furnace designed for heating a double cylindrical boiler, so that the gases and products of combustion may pass off quickly, and give up nearly all their heat to the boilers in their passage under it. The fire-place or grate is made gradually tapering in order to prevent the escape of any gases that are unconsumed.

In our illustrations, Fig. 1 is a top view of the hearth and fire-place, with the boilers removed, and Fig. 2 is a vertical cross section of the furnace, with the boilers in their place.

A are the grate bars, and B the sloping sides of the fire-place. C is the outer wall of the furnace, which is hollow, having a passage, *g*, throughout its length. This passage communicates with the external air by passages or holes, *h*, that can be closed or opened by doors, *i*, so as to admit a greater or less quantity of air to the fire, as desired. The air entering any of these doors becomes heated in its passage through *g*, and passing through *j* into the chamber, *k*, is presented to the fire in a heated state, which is one of the best for obtaining proper combustion. The two boilers, G, are supported on side bridges, E, and central bridges, D, arranged as shown

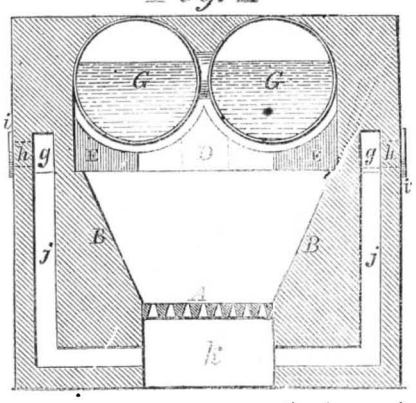
SKELLY'S BOILER FURNACE.

Fig. 1



in Fig. 2, and the gases and products of combustion, passing in the direction of the arrows to the flue, F, give up their heat to the boiler, being detained long enough to impart more heat than is usual, and at the same time, by

Fig. 2



this arrangement, the draft of the furnace is not materially impaired.

The simplicity of this device must recommend itself to every furnace builder. Any further particulars can be obtained by addressing the inventor, Evan Skelly, of Plaquemine, Aberville District, La. He has applied for a patent.

Pure Air.

The *Eclectic Medical Journal* of Philadelphia, in speaking on this subject, very properly remarks that it is not only necessary that men may have sufficient air to breathe, but it is necessary to provide air for the apartment itself in which they live, as well as for the persons who inhale it. The influence of impure air is not only exercised upon persons through their breathing organs, but the surface of their bodies, their clothes, the walls of the apartment—in short, the free surfaces of everything in contact with the air of the place becomes more and more impure—a harbor of foulness, a means of impregnating every cubic foot of air with poison—unless the whole apartment has its atmospheric contents continuously changed, so that everything animate and inanimate is freshened by a constant supply of pure air.

Ferber's Improved Window Blind.

This simple contrivance consists in fitting to one of the stiles of the window a vertical rod or bar, and attaching pins at the ends of the slats to openings in the same, whereby the rod cannot obstruct the light nor serve as encumbrances, as hitherto, nor the slats be allowed to turn or move casually. Through this means the appearance of the blind is not only greatly improved, but its attachments are made more durable than those of the usual construction.

In our illustrations Fig. 1 is a perspective view of a window blind, with the improvements attached. Fig. 2 is a vertical longitudinal section through a portion of the same, and Fig. 3 is a perspective view of the sliding bar of ditto. The same letters in the figures indicate corresponding parts.

A represents the rectangular frame of a blind, on one stile of which is formed a rebate, B. C are the blind slats, the ends of which have journals formed on their centers, which turn in suitable boxes in the stiles, the journals, C′, at one end being provided with radial arms or pins, D, which enter spaces, F, formed in a vertically sliding bar, E, fitted outside the rebate, and having a stop block, E′, hinged to its lower end, which is capable of being pressed under the same when it is desired to sustain the said bar at its greatest hight, to give a certain degree of inclination

Fig. 1

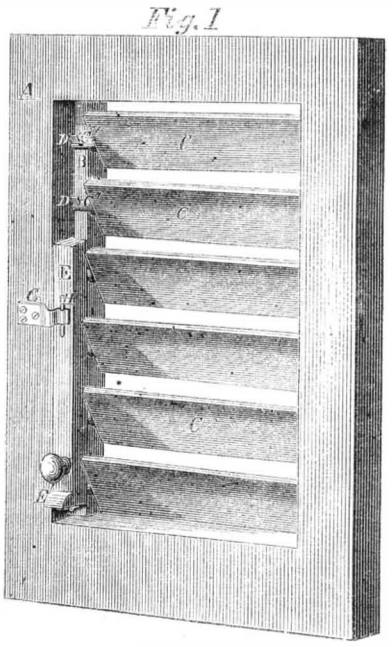


Fig. 2

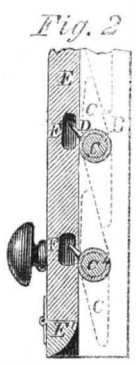


Fig 3

to the slats, or withdrawn from under the bar E, when it is desired to reverse their inclination. This bar is guided in its up-and-down movement by a spring plate, G, secured at one end to the stile of the window frame, and pressing at its opposite elastic end on a vertical rod or rib, H, attached to the outside of the bar, E.

From the above description it will be seen that when the bar, E, is moved up and down, the blind slats will be opened and closed by the spaces, F, in the same on the radial pins or arms, D, and that the elastic plate, G, will press against the guide rod or rib, H, with sufficient force to prevent the slats from casually turning, and that the bar, E, is not in such a position as to obstruct the light, or to be liable to detachment from the slats or in any manner produce the inconvenience experienced in the use of the ordinary method of attaching and operating window blind slats.

The patent for this effective attachment to window blinds, for which there is a universal demand, was patented by Andrew Ferber, of Elizabeth City, N. J., on July 27th, 1858. Any further information can be had by addressing him.

Literary Notices.

WELLS' PRINCIPLES AND APPLICATIONS OF CHEMISTRY. By David A. Wells, A. M. New York: Ivison & Phinney, 321 Broadway. Every contribution to the natural sciences is an addition to our knowledge, and all those books which try to make the thorny paths of science easy and pleasant to the student are to be accepted with thanks. This book is the last published of a series by Mr. Wells, and is highly recommended by some eminent educational authorities. It embraces in a compact form, and in language easily understood, the facts of chemical science, illustrated with 240 engravings. From the number of professors and teachers who endorse the value of Mr. Wells' publications, they must be largely in use in our schools and colleges, and by those who use them as text-books, and many others, we have no doubt this new one will be hailed with pleasure.

THE KNICKERBOCKER. John A. Gray, 16 and 18 Jacob street, New York. We have received the September number of this veteran journal of upwards of half a century, and find it filled with that choice and versatile character of writing for which it has long been distinguished. This number is adorned with a finely executed likeness of Epes Sargent, whose writings have so frequently added lustre to this sterling magazine. It also contains contributions from the graphic pens of Tuckerman, Stoddard, Aldrich, and other eminent writers. There is in addition a variety of other original matter, which renders its perusal highly useful and entertaining, including, of course, the rich, ripe and rosy, and genuite witty table talk of the able editor, Lewis Gaylord Clark.

THE ECLECTIC MAGAZINE. W. H. Bidwell, editor and proprietor, 5 Beekman street, New York. The September number of this excellent periodical contains some of the best articles, as in fact every number does, of the foreign reviews. We may mention as best, "Description of Active and Extinct Volcanoes," "Recent Astronomy," and "Canning's Literary Remains." There are two portraits, one of David Garrick and his wife, and another of the Rev. Chas. Kingsley.

THE ATLANTIC MONTHLY. Phillips, Sampson & Co., Boston. The September number is an excellent one. The articles on "Eloquence," Daphnaides," and "An Evening with the Telegraph Wires," are particularly interesting. The "Autocrat of the Breakfast Table" is as lively, entertaining and philosophical as usual.

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